MERIT BADGE SERIES



# CHESS



BOY SCOUTS OF AMERICA®

# Requirements

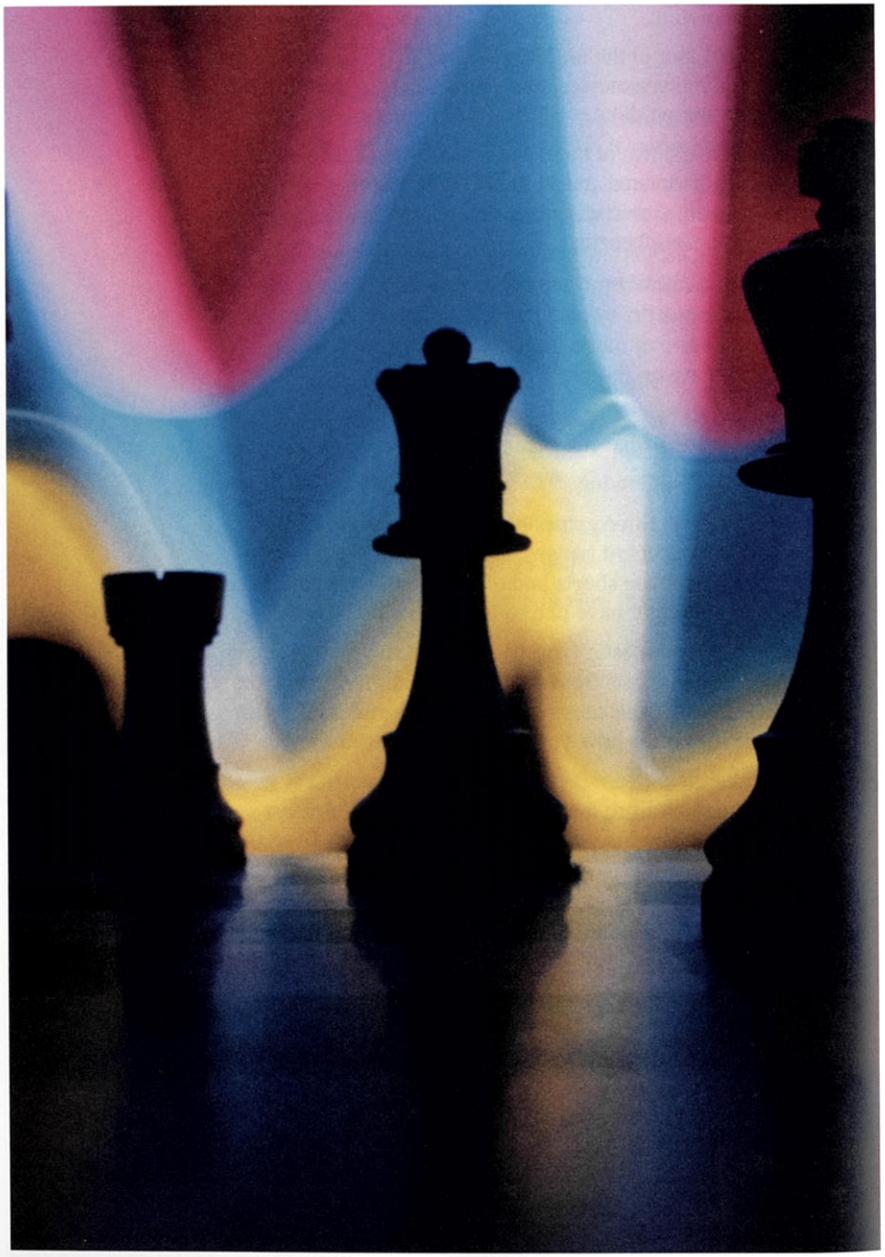
1. Discuss with your merit badge counselor the history of the game of chess. Explain why it is considered a game of planning and strategy.
2. Discuss with your merit badge counselor the following:
   a. The benefits of playing chess, including developing critical thinking skills, concentration skills, and decision-making skills, and how these skills can help you in other areas of your life
   b. Sportsmanship and chess etiquette
3. Demonstrate to your counselor that you know each of the following. Then, using Scouting's Teaching EDGE, teach the following to a Scout who does not know how to play chess:
   a. The name of each chess piece
   b. How to set up a chessboard
   c. How each chess piece moves, including castling and en passant captures
4. Do the following:
   a. Demonstrate scorekeeping using the algebraic system of chess notation.
   b. Discuss the differences between the opening, the middle game, and the endgame.
   c. Explain four opening principles.
   d. Explain the four rules for castling.
   e. On a chessboard, demonstrate a "scholar's mate" and a "fool's mate."
   f. Demonstrate on a chessboard four ways a chess game can end in a draw.

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5. Do the following:
   a. Explain four of the following elements of chess strategy: exploiting weaknesses, force, king safety, pawn structure, space, tempo, time.
   b. Explain any five of these chess tactics: clearance sacrifice, decoy, discovered attack, double attack, fork, interposing, overloading, overprotecting, pin, remove the defender, skewer, zwischenzug.
   c. Set up a chessboard with the white king on *e1,* the white rooks on *a1* and *h1,* and the black king on *e5.* With White to move first, demonstrate how to force checkmate on the black king.
   d. Set up and solve five direct-mate problems provided by your merit badge counselor.
6. Do ONE of the following:
   a. Play at least three games of chess with other Scouts and/or your merit badge counselor. Replay the games from your score sheets and discuss with your counselor how you might have played each game differently.
   b. Play in a scholastic (youth) chess tournament and use your score sheets from that tournament to replay your games with your merit badge counselor. Discuss with your counselor how you might have played each game differently.
   c. Organize and run a chess tournament with at least four players, plus you. Have each competitor play at least two games.





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# What Is Chess?

Chess is among the oldest board games in the world, and it ranks among the most popular games ever created. Chess is played worldwide—even over the Internet. Players meet for fun and in competition, everywhere from kitchen tables and park benches to formal international tournaments. Chess clubs meet at youth clubs, senior centers, schools, and universities.

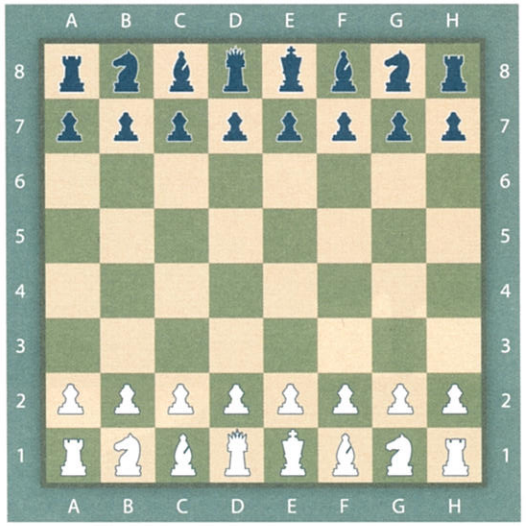
Though the game pieces move in specific ways, and it is not difficult to learn the basic moves and the rules of the game, chess players find new and interesting moves each time they play. Each game unfolds differently, challenging players in unexpected ways. To play chess well requires deep concentration and mental alertness.

Chess is a game of skill. It has almost no element of chance.

## What's It Like?

Chess is a game for two players. To some, chess resembles a military battle, with each player having an army of pieces. The game is also similar to checkers and even American football. In football, each side has 11 players on the field. In chess, each player has 16 "team members," called "pieces." You are the coach, or leader, in charge of your team.

The pieces line up similar to football players, each side starting play with two rows of players. The pieces in front resemble the linemen, and the pieces in the back row are much like the backfield, as in the figure shown here, right.

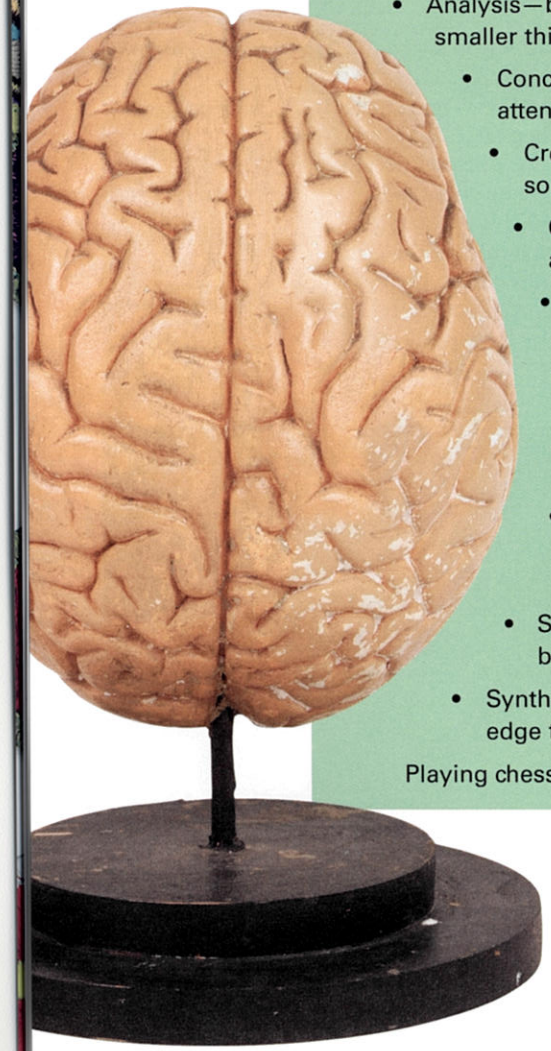


## Chess and Your Brain

Chess helps to develop many different mental abilities that are useful lifelong.

- Abstract reasoning—reaching conclusions from previous knowledge
  - Analysis—breaking something down into smaller things to solve
    - Concentration—the ability to direct your attention to one thing
      - Creativity—the ability to think of something and bring it to reality
        - Critical thinking—applying logic and careful reasoning
          - Evaluation—determining the worth of something
            - Pattern recognition—recognizing something that you have previously seen and knowing what to do in that situation
            - Problem solving—recognizing a problem and coming up with a workable solution
        - Strategic planning—deciding what is to be done with the resources available
    - Synthesis—combining previous knowledge to help out in a current situation.

Playing chess is good for your brain!







One goal in football is to tackle or "sack" the quarterback. In chess, each side has a king instead of a quarterback. A chess player wants to *trap* (or lure) his opponent's king. And rather than tackle the king, the chess player wants to *trap* his opponent's king. A king that is cornered, to be trapped on the next move, is said to be *checkmated.* When a king cannot move to safety and could be taken on the next move, the game has ended.

In chess, you can make an almost endless variety of plays as you and your opponent take turns until the opposing king is trapped by the winner. Some plays—in chess, they are called "moves"—are for offense, while others are for *defense:* They are designed to protect your team, or army of pieces, from being *captured* (or taken).

As you learn and become increasingly skillful at chess, you will learn good plays and how to avoid many of the bad ones. A major goal of the game is to know how to make better moves than your opponent and to learn from your mistakes as your opponents learn from theirs and from yours.

When you learn from your mistakes, you are synthesizing information.

## Easy to Learn, Hard to Master

It is often said that chess is easy to learn, but it takes a lifetime to master. As a beginning chess player, you can expect to lose games. It is best to play with those at the same level of skill so you can learn together. Playing advanced players too soon can be discouraging. Playing regularly, however, will help you gain the confidence to play increasingly better players.

When you are ready, play more advanced players than yourself, to learn how they win. The better the players you play, the better you will become.

Even the best players get better with practice—and by losing many games. But there will always be those, as in other games and sports, who have a natural gift or talent. Just remember that you have your special talents, too.

Terms set in italics, like *trap,* can be found in the glossary at the back of this pamphlet.



## More Than a Game

Playing chess is not just about winning or learning the best plays. The game teaches its players many things about themselves and others.

Aside from social skills, which you sharpen as you interact with other players, chess will test your thinking. The first test of your thinking will be your attitude toward yourself, your opponent, and the game. Sometimes you may play under pressure, and the end of a hard-fought chess game will test your attitude about winning and losing. Keep a positive attitude—just have fun. Accept your wins modestly, and learn from your losses with grace and a smile.





Learn to appreciate all of your experiences, and what you get from the game. In several specific ways, chess helps you think better.

**Playing chess builds concentration skills.** You must focus on your moves and your opponent's moves to avoid making major mistakes.

**Chess builds critical thinking and problem-solving skills.** Every game will require you to decide whether certain moves will be better for your position, or not better, or actually worse. Some moves are riskier than others. A wrong move may cost you one of your pieces, or even the game. You must analyze or compare the risks and make the best decision you can.

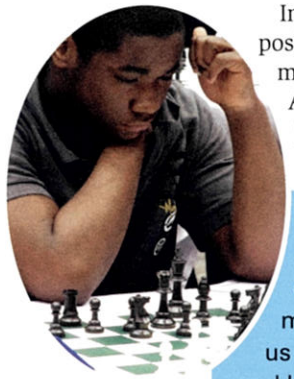
You may have to use your creativity and try something that you think might work, perhaps a play you have never tried before. You may have noticed how football players change their formations to surprise the other team or to anticipate what may happen. Coming up with a surprise play or formation (abstract thinking) may cause you and your opponent to think beyond what you would normally do.

Every player makes good moves and poor moves, winning moves and losing moves.



**You will learn to recognize many patterns of offense and defense,** just as a football quarterback does. By looking at your opponent's chess pieces during the game, you will learn, over time, to recognize good positions and poor ones. A good quarterback can often tell if a play will succeed just by the way the defensive players are positioned. Chess players, like quarterbacks, must be good at pattern recognition. They must notice how the opponent is lined up for each play and spot possible threats—or *weaknesses.*

Football players meet with their coaches to plan what plays they will use in a game. This is strategic planning and it is done not only by football players, but also by chess players, police officers, firefighters, military personnel, and anyone else who must plan how to accomplish a goal. It takes strategic planning to catch a criminal, douse a fire, surround the enemy—or capture the king in a game of chess.



In chess, you need to be able to carefully observe your position, your opponent's position, the pieces you want to move, and the locations where you want to move them. Analysis is the process of bringing together all the facts, planning for the risks, and predicting the consequences of your position and your move, to reach a decision.

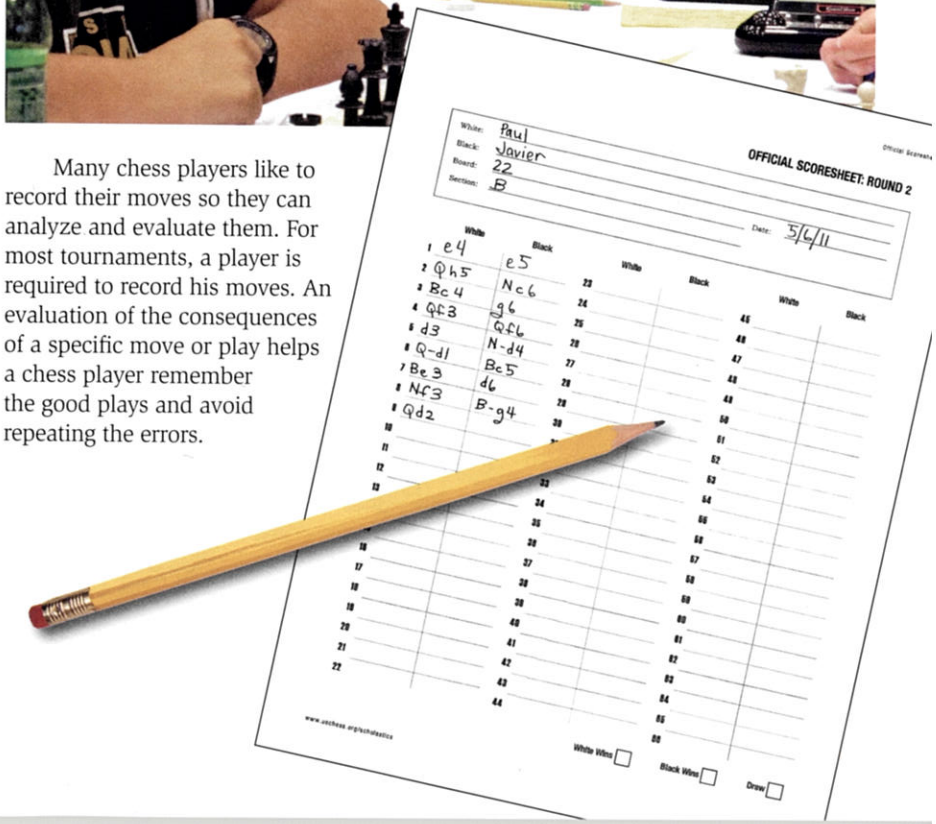
Being good at anything requires commitment, hard work, study, honesty, respect for others, a desire to learn and improve—and the courage to make mistakes and learn from them. Chess helps us learn the consequences of our decisions, good and bad, whether we win or lose.

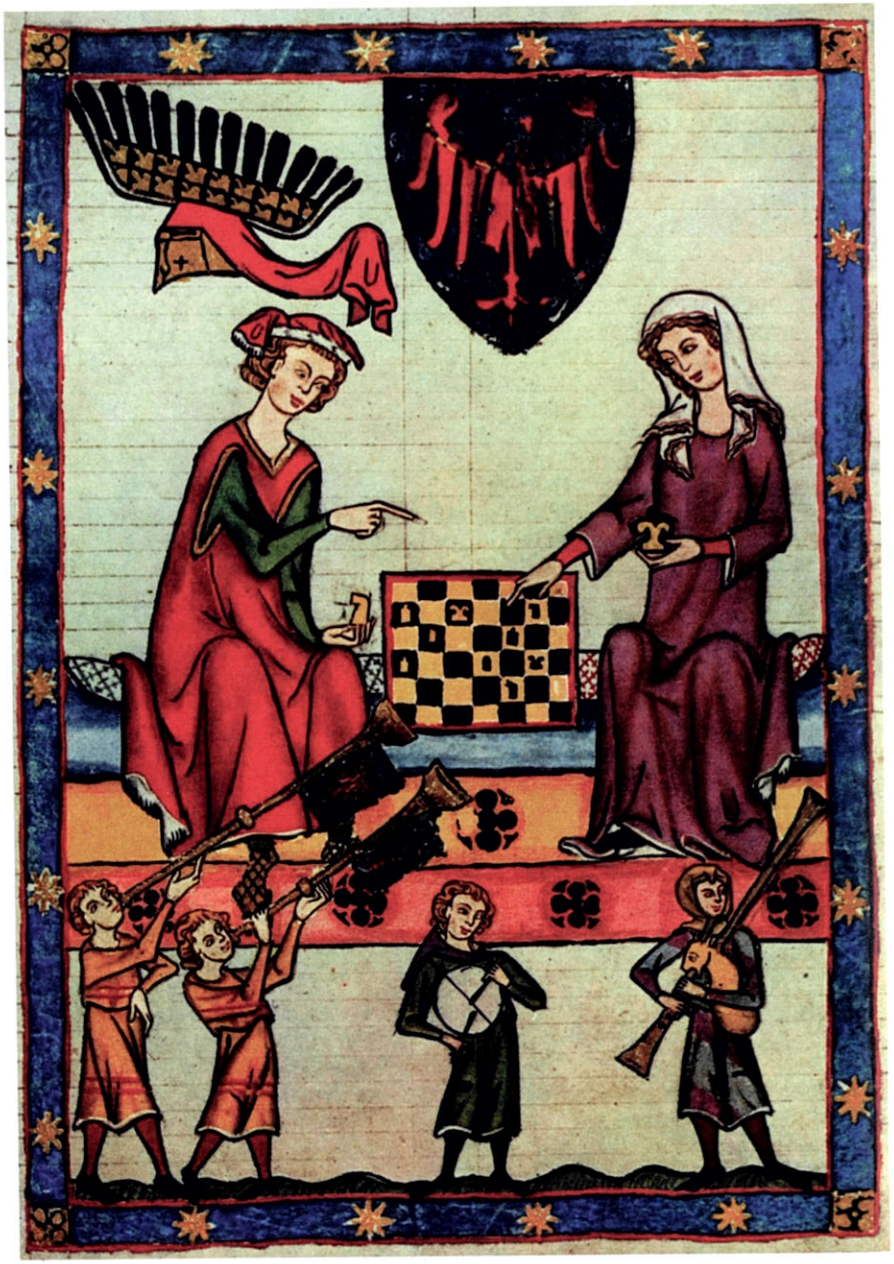






Many chess players like to record their moves so they can analyze and evaluate them. For most tournaments, a player is required to record his moves. An evaluation of the consequences of a specific move or play helps a chess player remember the good plays and avoid repeating the errors.







# The History of Chess

Chess originated in India around A.D. 600. The early game was called "Chaturanga"—a name that also applied to the Indian armies of that time. Chaturanga meant "four-limbed" and referred to the four parts of the army: chariots, cavalry, elephants, and infantry. The game had four corresponding pieces—chariots, horses, elephants, and foot soldiers—as well as pieces representing a ruler and his minister.



Those six kinds of early game pieces evolved into the six kinds of pieces found in modern chess.

- The chariot (like chariots of war, which moved swiftly but needed clear paths) became the rook (which moves any number of vacant squares vertically or horizontally).
- The horse (which could leap obstacles and turn quickly) became the knight (which moves in an L shape with two steps in one direction, a right-angle turn, and one step in the new direction). The knight cannot be blocked by other pieces. Like the horse, it leaps over them.

For details and illustrations of how the pieces move in the modern game of chess, see "How to Play Chess" in this pamphlet.

- The elephant (which was limited to moving two squares *diagonally,* not horizontally or vertically) became the bishop (which can move any number of vacant squares in any diagonal direction), always staying on the same color.
- The foot soldier (like the infantry in warfare, never retreating from the enemy) became the pawn (which can move forward, never backward).
- The minister (which could move only one square diagonally) became the queen (which can move any number of vacant squares diagonally, horizontally, or vertically).
- The ruler piece became the king, the most important piece in the game.

Chaturanga spread from India to Persia and the Middle East, and from there into Europe during medieval times. Though the names of the pieces changed to fit the different languages as the game moved westward and became what we call "chess," the rules of the game changed very little. In Europe by A.D. 1000, chess became popular among knights and nobles. The Spanish brought chess to the New World at least as early as 1533.



**In 1497, a Spaniard named Luis Ramírez de Lucena wrote *Repetición de Amores y Arte de Ajedrez con ci luegos de Partido.* Today, it is the oldest-known book about chess.**







**This painting (circa 1865) by Edward Harrison May depicts Lady Howe as she checkmates Benjamin Franklin.**

In the United States, the first chess championship match was held in 1845. The first international chess tournament was held in London in 1851.

By the 1730s, Benjamin Franklin was playing chess. He was among the earliest players in the colonies that would become the United States. Franklin was able to use his knowledge of chess to help his diplomatic efforts in England. In 1786, he published a famous essay, "The Morals of Chess," which argued that chess has important educational benefits.

> "The Game of Chess is not merely an idle amusement; several very valuable qualities of the mind, useful in the course of human life, are to be acquired and strengthened by it...."
>
> —from "The Morals of Chess" (1750), by Benjamin Franklin

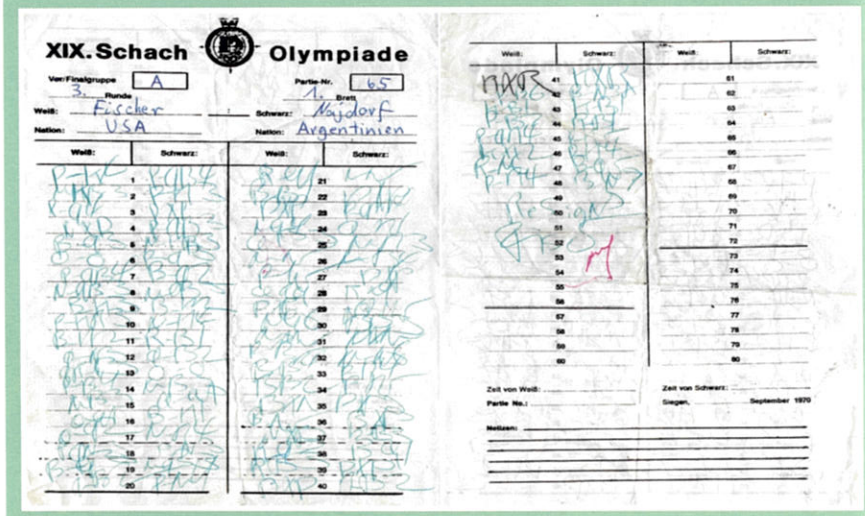
By the 1840s, chess players were holding large national gatherings in Yorkshire, England, and in Kentucky. Modern chess tournaments grew out of these early events, and national chess organizations formed, with England and the United States leading the way. State chess organizations arose in the 1880s. In 1924, the world chess organization called FIDE (Federation Internationale des Echecs) was formed.

The U.S. Chess Federation, which began in 1939, has worked to attract young players. The American organization also popularized the "Swiss system" tournament, a format that allows large numbers of players to compete over a short period of time, such as a weekend. (See "Chess Tournaments" later in this pamphlet.)

## Great American Chess Champions

The United States has had three world champions. Paul Morphy of New Orleans was widely regarded as world champion by 1858. Although he never used the title, Morphy is still considered one of the most brilliant players in history. He retired undefeated. Wilhelm (William) Steinitz, the first officially recognized world champion, became a U.S. citizen in 1888, while still holding the title.

One of the most dominant world champions in history was Bobby Fischer (1943–2008), a native of Chicago. Fischer learned chess as a small child. By age 14, he was U.S. champion. He played in and won eight U.S. championship tournaments. He then defeated two past world champions to win the world title in 1972. Although he played little public chess after that, Fischer remains a legend. His games are models of deep strategy and planning that still fascinate players.




**This is Bobby Fischer's notation from a game against Argentinian Miguel Najdorf during the 1970 Chess Olympiad in Siegen, Germany.**







**Original Staunton chess pieces: pawn, rook, knight, bishop, queen, and king**

## The Staunton Standard

During its early years, the game of chess was played with pieces of no particular style or standard. By the late 18th and early 19th centuries, as the popularity of chess rose tremendously, players began to see the need for standardization in the design of chess pieces. They realized an opponent who could more readily identify the pieces would have an unfair advantage—the opponent would not be so preoccupied with confusing the pieces while trying to analyze a strategy.

One proponent of the standardization was chess master Howard Staunton, who lent his name to the Staunton design. While the set was not designed by him, he enthusiastically promoted the pieces as well-balanced, well-proportioned, and easy to identify.

To this day, the Staunton design is required for international chess events. At smaller events, the tournament director may permit the use of non-Staunton sets, but only if both players consent.





# How to Play Chess

To play chess, you must first know the names of the pieces, how to set up a chessboard, and how to move the pieces.

**The Pieces.** At the start of the game, each player has 16 pieces: a king, a queen, two bishops, two knights, two rooks, and eight pawns. One player (called White, for short) plays with the white pieces; the other player (called Black) plays with the black pieces.

**The Chessboard.** The chessboard—a checkered game board with eight rows and eight columns—is positioned with a white square in each player's lower-right corner. (Remember "white to right.") At the start of the game, each player has these pieces set up in this order: rook, knight, bishop, queen, king, bishop, knight, rook. Eight pawns line up on each player's second row.

Note that the queens start on squares of their own color—the white queen on a white square; the black queen on a black square. See figure 1.

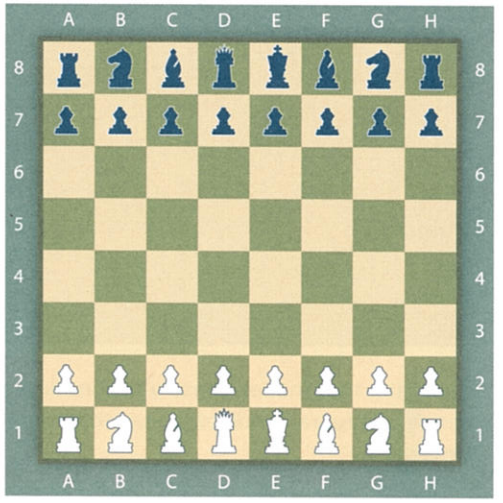



**Figure 1. Starting positions for the chess pieces**



In casual games, players generally decide who will play with the white pieces (and get to go first) by flipping a coin or by having one player guess the color of the hidden pawn in the other player's hand.

**The Moves.** Players take turns. White (the player with the white pieces) always moves first, by moving one piece to a different square, following the rules of movement for that piece. By moving a piece to a square that contains a piece belonging to the opponent, a player captures (takes) that piece. The opponent's piece is then removed from the board, and it is out of play for the rest of the game.



## Scouting's Teaching EDGE

For requirement 3, you will need to teach someone else how to play chess. As you teach, keep in mind what you have learned and what has been helpful to you. When you are ready, use the Teaching EDGE as your guide:

- Explain how it is done.
- Demonstrate the steps.
- Guide learners as they practice.
- Enable them to succeed on their own.

The essential thing that makes chess a fascinating game is the existence of several kinds of pieces that have different moves.





## The Rules of Movement

Here are the rules for how the various chess pieces move.

The **rook** moves in a straight line, any number of vacant squares horizontally or vertically. The rook may not jump over other pieces. If the rook's path is blocked by a piece of the same color, it must stop. If it comes up to an opposing piece it must stop, or it may capture the enemy piece and occupy that square. (This rule—"stop or capture"—applies to every piece except for the knight.)

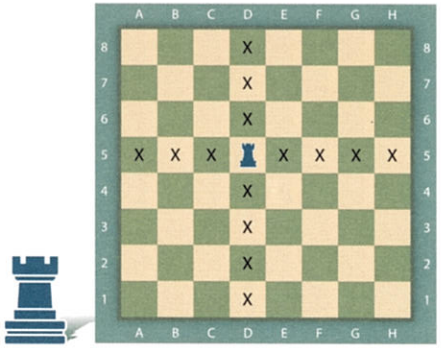


Figure 2. How the rook moves

The **knight** moves two squares horizontally or vertically, then one square at a right angle, forming an "L." It must land on a square that is a different color from the one on which it started its move. The knight is the only piece that may jump over another piece (of either color). Jumping another piece does not affect the jumped piece. A knight captures an opponent's piece by landing on the square which contains that piece.

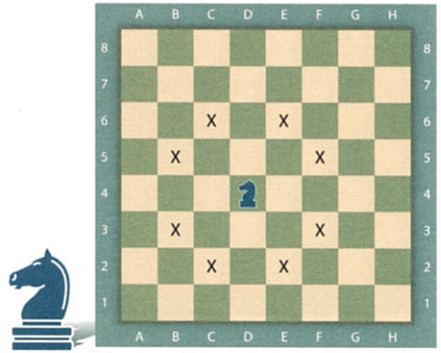


Figure 3. How the knight moves

The **bishop** moves any number of vacant squares in a straight diagonal line. At the beginning of the game, each player has a bishop on a white square and one on a dark square. The bishops remain on their respective colored diagonals for the entire game.

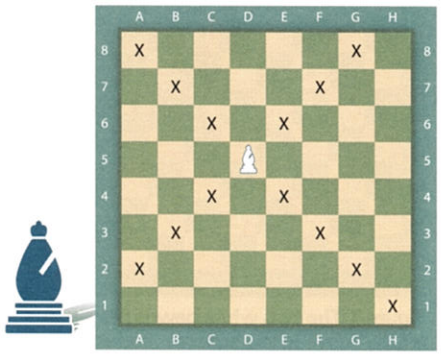


Figure 4. How the bishop moves

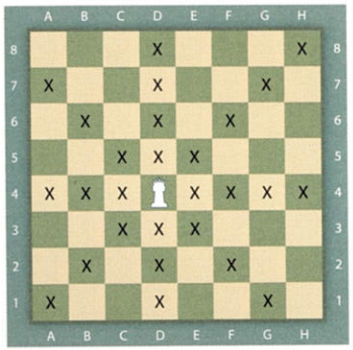


Figure 5. How the queen moves



The **queen** has the combined moves of the rook and the bishop. The queen may move any number of vacant squares in any straight line—horizontal, vertical, or diagonal.

The **king** moves one square in any direction—horizontally, vertically, or diagonally—and only if the square it is moving to is not under attack by an opposing piece or occupied by a piece of the same color as the king. The king may capture a piece of the opposite color if the captured piece is unprotected, even if the enemy piece is threatening the king (it has the king "in check," as described on page 27). One special type of move, called *castling*, is made by a king and a rook simultaneously (see page 26).

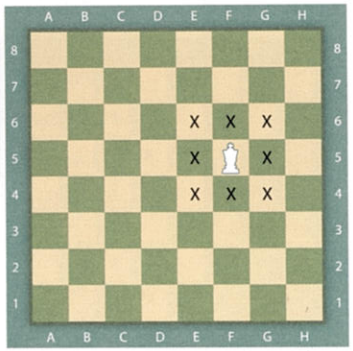


Figure 6. Basic moves of the king



On its first move, a **pawn** may move one or two squares straight forward. After its first move, a pawn moves only one square at a time, straight forward, and only if the square in front of it is unoccupied. To capture an opponent's piece, however, a pawn moves one square diagonally forward. A pawn may capture any opposing piece or pawn that is diagonally in front of it, and as it makes the capture it moves into the column *(file)* next to the one it had been on and occupies the square of the captured piece. Because of the way a pawn captures ("on the diagonal"), any piece or pawn that is on the square immediately in front of a pawn is safe from capture by that pawn.

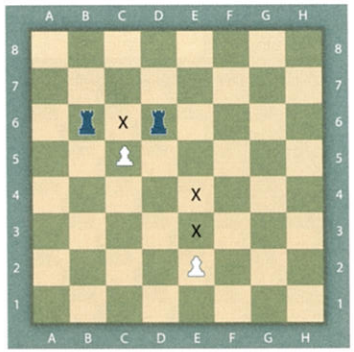


Figure 7. The two white pawns may legally move to the squares marked "x" in front of them. In addition, the pawn on square c5 can also capture either of the black rooks on b6 and d6.







A special rule for pawns is called *en passant* (in passing). When a pawn chooses to move two squares on its first move (from the second rank to the fourth rank) and there is an enemy pawn on an adjacent square on the fourth rank, then this adjacent enemy pawn (only on its next move) may move diagonally to capture the pawn as though it had moved only one square.

In the left panel of this diagram, you see the initial squares the pawns occupy. Notice that the white "A" pawn is moving from a2 to a4, landing next to the black pawn on b4. The black pawn (center panel) can then capture the pawn on a4 by moving his pawn to a3 and taking the white pawn on a4 off the board. This leaves the board looking like the diagram on the right panel after black has completed his move.

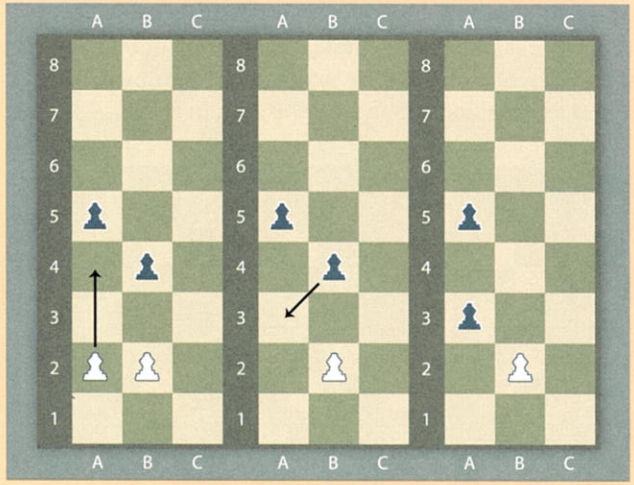


Figure 8. An en passant capture

A player who succeeds in moving a pawn to the last rank of the board can *promote* that pawn by replacing it with a queen, rook, knight, or bishop (of the same color). Usually, players will promote the pawn to the most powerful chess piece—a queen—but replacing the pawn with the other types of pieces is allowed. This makes it possible for a player to have two or more queens on the board at the same time.

In *castling,* which each player can do only once in a game, the king and rook move simultaneously, with the king moving two squares toward the rook, and the rook moving over the king to the next square. Castling is allowed if

1. Neither the king nor the rook have yet moved in the game.
2. All squares between the king and the rook are empty.
3. The king is not in check (under attack by an opponent's piece or pawn) at the time of castling.
4. The king does not move over or to a square that is under attack by an enemy piece during the castling move. That is, there may not be an enemy piece that can move to any square which the king moves over, and you may not end the castling move with the king in check.

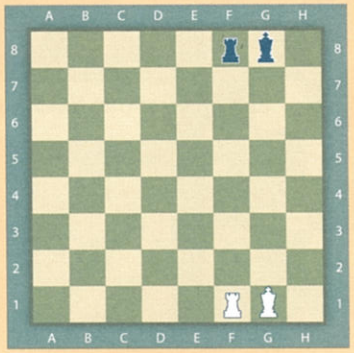


**Figure 9. King and rook castled *kingside***

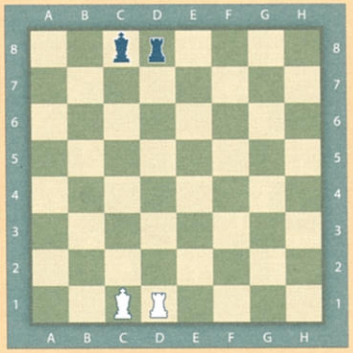


**Figure 10. King and rook castled *queenside***





## Check and Checkmate

When a player moves a piece into a position that attacks the opponent's king, it is polite to say, "Check"; however, it is not required. When a king is in check (threatened with capture), one of three things must happen. If none of these things is possible, then the king is checkmated and the game is over.

1. The king must move out of check (move to a safe square).
2. The enemy piece that has the king in check can be captured.
3. A piece can be moved between the king and the attacking piece.

The object of the game is to *trap*—checkmate—the opponent's king. The castling move helps to protect the king by getting it away from the center of the board and into a position where it can be defended.

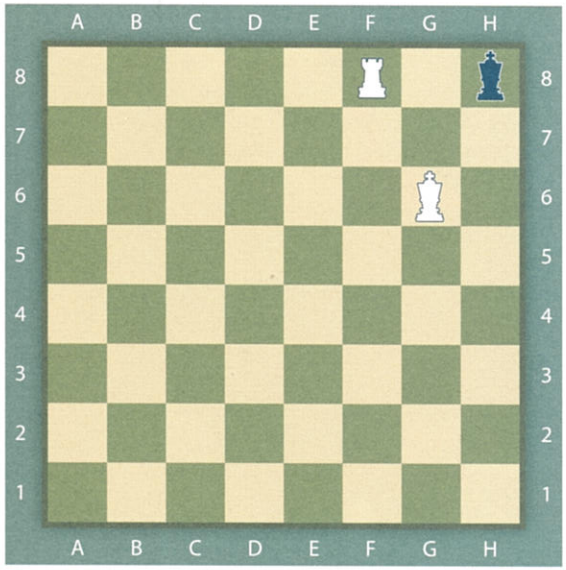


**Figure 11. The black king is checkmated by the white rook and white king.**





# Openings

After learning how to set up and move the pieces, next learn how to begin the game. The first several moves by both players form the *opening*. In most chess games, the opening is the first four to 10 moves. Some sequences of opening moves are well-established and well-known, with the same pieces being moved to the same squares in the same order each time that particular opening is played.

No one opening is best. If one were better than all the others, then everybody would use that opening sequence, and the player with the white pieces would win every game. That does not happen.



Many openings, such as Anderssen's Opening or the Evans Gambit, are named after the first notable chess player to succeed with a particular combination of moves at the beginning of a game.

To find an opening you are comfortable with, a beginning player should experiment with moving pieces at the start of the game in any order you want (as long as you do not violate the "opening principles" discussed later in this chapter).

Do not move your pieces haphazardly in the opening. Concentrate. Pay attention to what your opponent is doing and react to those moves, or you could suffer a quick defeat.

## Chess Notation

To understand about *openings*, you need to understand how chess players refer to the squares on a chessboard.

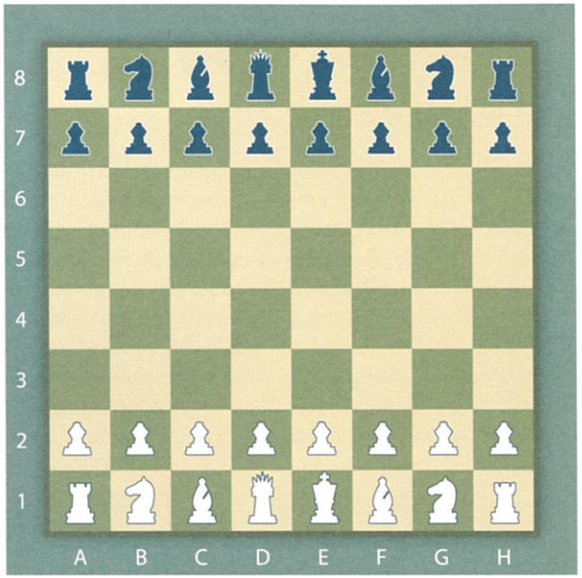



**Figure 12. The letters *a* through *h* indicate the files. The numbers *1* to *8* indicate the ranks.**

Figure 12 shows a chessboard as it should appear at the beginning of a game. Notice the letters *a* through *h* along the bottom of the board—they indicate the vertical files (columns). The numbers *1* to *8* on the left indicate the horizontal *ranks* (rows). Each square on the board is identified by its file letter and its rank number. For example, the white rook in the lower-left corner is on square *a1*. The white queen (it is symbolized by the crown with four points) is on *d1*. The black king is on *e8*.

This system of giving every square on a chessboard a letter-number "name" makes it easy to record and describe the moves in a game of chess. Move the white pawn on square *e2* two squares forward, for example, and you see that it comes to rest on square *e4*. The grid of letters and numbers lets you know exactly where the pieces are, and allows you to follow along as they move.





In chess notation, the pieces are abbreviated as follows: **K** (king), **Q** (queen), **R** (rook), **B** (bishop), and **N** (knight). The pawn may be abbreviated **P**, but normally no abbreviation is used for the pawn, only the name of the square where it lands. For more details about chess notation, see "Chess Tournaments" in this pamphlet.

## Opening Principles

When playing any opening, pay attention to these four principles: development, control the center, castling, and pawn structure.

***Development*** means getting pieces off their original starting squares and moved to squares where they can be useful for attack and defense. Here are several do's and don'ts.

- Do develop the *minor pieces* (knights and bishops) before the *major pieces* (rooks and queen).
- Do make a knight's first move toward the center of the board. For the white knight starting on *g1*, the best first move is usually *f3*. (See figure 13.) For the white knight starting on *b1*, the best first move is usually *c3*. For the black knights, the best squares are *f6* and *c6*.

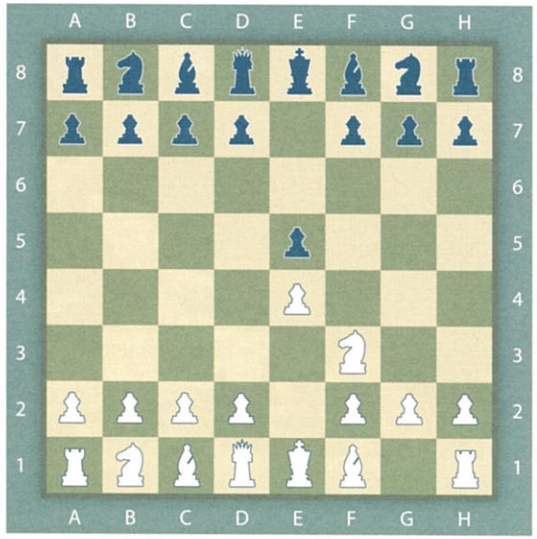



**Figure 13. For the white knight starting on *g1*, the best first move may be *f3*.**

The smart player saves the rooks for later because the rooks are strongest after several pawns have been captured.

- Do make the bishops' first moves to squares where they are attacking pieces on your opponent's side of the board and/or they are protecting important squares on your side of the board.
- Don't develop a bishop on its first move to a square where it blocks your *d* or *e* pawn from advancing.
- Don't move the knight to the edge of the board (*h3* for the *g1* knight; *a3* for the *b1* knight; *a6* for the *b8* knight; or *h6* for the *g8* knight) on its first move, unless it is necessary to defend against an opponent's attack.
- Don't develop the queen early in the game. It can make an easy target for your opponent. Send the queen in once other pieces are developed.
- Don't move the *a* pawn or *h* pawn forward two squares to get the rooks out early. Rooks are at their weakest in the beginning of the game, when most of the pawns are on the board.
- Don't develop one piece and move it continuously. At the end of their first five moves, advanced players will usually have developed at least three pieces and will not have moved any piece twice.



Do learn from your mistakes. If, after playing several games, you find that moving one of your pieces to a specific square at the beginning is not good, then either move that piece to a different square or move a different piece.








**Figure 14. The chessboard's center squares**

Try to **control the center.** These squares are in the center of the board: *c3, c4, c5, c6; d3, d4, d5, d6; e3, e4, e5, e6;* and *f3, f4, f5, f6.* (See figure 14.) Controlling these squares with your pieces and pawns makes it more difficult for your opponent to attack you, and easier for you to attack your opponent. The "sweet center"—squares *d4, d5, e4,* and *e5*—are the most important. Many games are decided by which player controls the sweet center.

A player normally uses **castling** as soon as possible because the king is safest when it is not in the center of the board. To castle the king to the kingside, move the king two squares to the right (*e1* to *g1,* for the white king) and the rook to the other side (*h1* to *f1*). To castle to the queenside (less common than castling on the kingside), move the king two squares to the left (*e1* to *c1*) and the rook to the other side (*a1* to *d1*).

Because the pawns are the first line of defense, the position of the pawns—**pawn structure**—can be crucial. Pawns are the only pieces that cannot move *backward.* A player must be careful to not advance a pawn too far forward, or enemy pieces may get behind the pawn and more easily attack. The side pawns—especially those immediately in front of the castled king—should not be moved forward unless there is a specific reason to do so. Pawns are at their strongest when side-by-side on the same rank.

Avoid trading off lots of pawns with your opponent. Later in the game, you may want to get a pawn to the opposite side of the board and promote it to another piece, like a queen.

## Quick Checkmates

It is possible to lose (or win) a game of chess in only two or four moves. The most common types of quick checkmates (which often happen to beginners because they ignore the "opening principles") are the fool's mate and the scholar's mate.

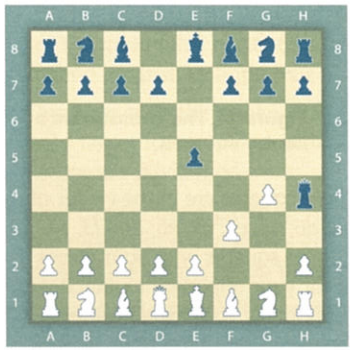


Figure 15. Fool's Mate

The **fool's mate** is a two-move checkmate for Black. A fool's mate can happen as follows. (In the shaded boxes that appear on the following pages, White's moves are listed on the left; Black's moves are on the right.)

| | | |
|---|---|---|
| 1 | Pawn to *g4* | Pawn to *e5* |
| 2 | Pawn to *f3* | Queen to *h4* for checkmate |

Figure 15 shows the position after the second move for Black. Note that White ignored the principles of (1) getting pieces developed, and (2) not moving side pawns. These mistakes handed Black a quick victory. To avoid losing this way, White should get pieces developed to control the center of the board, and leave the side pawns in place to protect the *flanks* (the sides of the formation).

"You must be able to handle a variety of move orders during the first five or six moves—otherwise you'll find yourself 'tricked' time and time again."

—Chess Grandmaster Edmar Mednis







Figure 16. Scholar's Mate

The **scholar's mate** is a four-move checkmate for White, usually in this order:

| | | |
|---|---|---|
| 1 | Pawn to *e4* | Pawn to *e5* |
| 2 | Queen to *h5* | Knight to *c6* |
| 3 | Bishop to *c4* | Knight to *f6* |
| 4 | Queen captures pawn on *f7* for checkmate | |

Or

| | | |
|---|---|---|
| 1 | Pawn to *e4* | Pawn to *e5* |
| 2 | Bishop to *c4* | Knight to *c6* |
| 3 | Queen to *h5* | Knight to *f6* |
| 4 | Queen captures pawn on *f7* for checkmate | |

Figure 16 shows the checkmate after the fourth move for White. Black cannot capture the queen, which is guarded by the bishop on *c4*. (If the black king were to capture the white queen, the black king would move into check, which is an *illegal move*.)

To defend against the scholar's mate, Black may choose from among several effective third moves:

| | | |
|---|---|---|
| 1 | Pawn to *e4* | Pawn to *e5* |
| 2 | Queen to *h5* | Knight to *c6* |
| 3 | Bishop to *c4* | Knight to *h6;* Pawn to *g6;* Queen to *e7;* or Queen to *f6* |

All of these moves are against the opening principles discussed earlier in this chapter. Defending against an attack from your opponent is more important, however, than blindly following "principles." A good player always pays attention to the opponent's moves and how the opponent may be preparing to attack.



# Middle Games

After the opening comes the middle game. Because openings start from the original positions of the chess pieces on the board, all the possible openings in chess have been discovered and used countless times. The *middle game,* however, is more complicated. Players face a vast number of options for how to play, helped only by general guidelines for how to evaluate positions and develop plans.

To develop winning plans in the middle game, it helps to understand some concepts for selecting good moves and using basic strategies and *tactics*.

## Chess Strategy

*Strategy* in a chess game means planning how to gain *advantages* over your opponent. (This involves lots of analysis, abstract reasoning, concentration, evaluation, pattern recognition, and problem solving.) Seven common elements of strategy are exploiting weakness, force, king safety, pawn structure, space, tempo, and time.

**Exploiting a weakness** of an opponent requires careful analysis of where all the pieces on the board are located. Is an opponent's piece unprotected? Is an opponent's piece protected by only one piece, while you have two pieces attacking it? Is one piece overloaded by protecting several pieces? Is the square next to your opponent's king protected by only the opponent's king?

> "In the opening a master should play like a book, in the mid-game he should play like a magician, in the ending he should play like a machine."
>
> —Chess Grandmaster Rudolf Spielmann

***Force*** has two meanings in chess. The player who has more pieces on the board has more force. When you have more pieces than your opponent, you can *simplify* the game by making equal trades that leave fewer pieces on the board. (In a trade, or an *exchange*, of chess pieces, the two players capture each other's pieces, one after the other.) Force can also mean having more of your pieces attacking an opponent's square than your opponent has defending that square.

Do not pass up an opportunity to win the game early. Look for ways to threaten your opponent's king.

**King safety** means putting your king in a safe place, and looking for possible threats to your king before making each move. The safest place for the king is in a castled position behind a wall of pawns. Do not move these pawns without a good reason, like defending against a specific threat (or when there are fewer pieces left on the board, which means the endgame—or last phase of the game—is near).

**Pawn structure**—how the pawns are arranged on the board—determines which squares can safely be occupied by pieces and where pieces can or cannot move quickly and safely. Looking at the pawn structure is a good way to determine where effective attacks can be made and where other attacks would easily be shut down.

Advancing the correct pawns can create more space, force your opponent's pieces to move, and create weaknesses in your opponent's position. Defending against an advance of pawns often means using your own pawns to create a *pawn chain*. When three or more pawns form a diagonal line, with each one protected by a pawn behind it on an adjacent (neighboring) file, they make a pawn chain. See figure 17.



Three or more pawns in a diagonal line, with each one protected by a pawn behind it on an adjacent file, form a *pawn chain.*

**Figure 17. In this illustration, White's pawns make a pawn chain of passed pawns. Doubled pawns (two or more pawns of the same color and on the same file) can be a weakness, such as Black's pawns on *g5* and *g6*. Remember: Pawns can only move forward.**

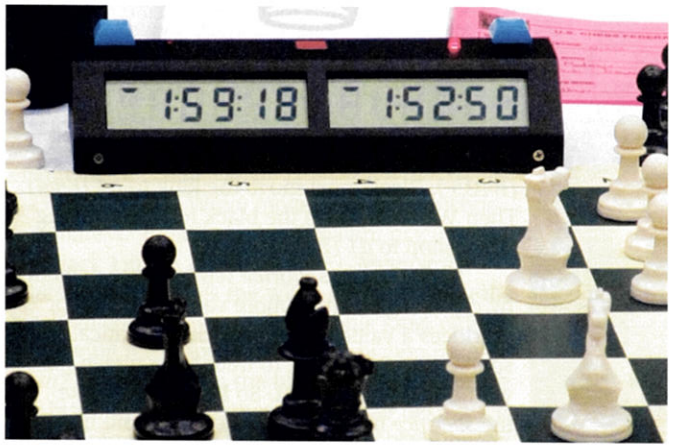




***Space*** means that your pieces control more squares than your opponent's pieces control. The more space you control, the easier it is to get your pieces into position for an effective attack. The player with less space can find it difficult to move pieces into a position where they can defend against an attack or start an attack.

***Tempo*** refers to moves. If one player makes a move, forcing the opponent to react to that move, then the player is said to gain a tempo. Greater piece mobility (movability) gives your pieces an advantage in tempo. *Maneuver* your knights toward the center. Put rooks and the queen on *open files*, put bishops on open diagonals and, from the center, attack your opponent's position, including the protected corner where the king is.

The more time your opponent spends defending against your moves, the less time your opponent has to attack you.




**Time,** in chess, has several meanings. It can refer to tempo; to *time control* (how much time each player is allowed for making their moves); and to "time trouble." Time trouble means that a player has a lot less time remaining in a game than the opponent has. For example, White might have three minutes remaining (from a total allowed time of 30 minutes) in which to make all remaining moves, while Black has 12 minutes left. Therefore, White could lose the game no matter how the white pieces are positioned on the board, unless White is able to checkmate Black before time runs out.

Time controls are used in tournaments to control the length of games. See "Chess Tournaments" in this pamphlet.

## Chess Tactics

When you know how various tactics work, it becomes easier to see situations where specific tactics will work. If you try to use a tactic when the position does not support it, the plan generally will not work. Here are examples of several effective tactics, showing the types of situations where they might be used.



Figure 18. Fork

A ***fork*** is a move that uses one piece to attack two or more of the opponent's pieces at the same time. The opponent can defend against only one of the two threats.

In figure 18, White moves the pawn to square *g5*, which puts the black king in check. (In chess notation, this move can be written as *P-g5+*. The plus sign indicates that the move places the king in check.) Black's only legal move is King to *h5 (K-h5)* because of the placement of the white king and white bishop. Then the white bishop forks (threatens) the black king and black rook simultaneously by moving to square *e2 (B-e2+)*. Black must move the king to *h4 (K-h4)*. Then White captures the black rook by moving the bishop to *d1 (Bxd1)*.



Figure 19. Clearance sacrifice

A ***clearance sacrifice*** removes the defender by capturing it with a more valuable piece, or sacrifices a valuable piece to clear a critical square. It can be risky to trade your queen for your opponent's knight. So before you make the *sacrifice* move, be sure you will gain more than you will lose.

In figure 19, the white queen on square *e6* prevents a fork by the white knight on the black king and queen. White captures the black knight by moving the queen to *f5 (Qxf5)*. Black responds by capturing the white queen, moving either the black pawn *(gxf5)* or the black rook *(Rxf5)*. Then White moves the white knight to square *e6 (Ne6+)*, which forks (threatens) the black king and the black queen. Black must move its king out of check. Then White captures the black queen by moving the knight to *c7 (Nxc7)*, ending with a knight advantage for White.





A ***decoy*** is a tactic to trap a piece, using a sacrifice to force the piece to move to a *poisoned* or dangerous square. The trapped piece is usually a king or queen.

In figure 20, Black's king has only a few squares to which it can safely move. White, therefore, will look for ways to checkmate the black king. A decoy tactic can move the black king into position for the checkmate. A decoy move of the white pawn to *g5 (P-g5+)* puts the black king in check and forces the black king to capture the white pawn *(Kxg5)* because that is the only legal move available. Then White moves the white queen to square *f4* for the checkmate *(Q-f4#)*. The black king cannot move to safety because of the two black pawns on *g6* and *h5*.



Figure 20. Decoy

In a ***discovered attack,*** moving one piece reveals a threat from another piece. As the first piece is moved away, the player's attack on an enemy piece is uncovered.

In figure 21, White moves the white bishop to square *h7* to take the black pawn, placing the black king in check *(Bxh7+)*. Moving the white bishop reveals the white rook attacking the black queen. Black must protect his king, either by moving it to capture the white bishop on *h7 (Kxh7)* or by sending the black knight to capture the bishop *(Nxh7)*. Either way, White next moves the rook to *d6 (Rxd6)* to capture the black queen.

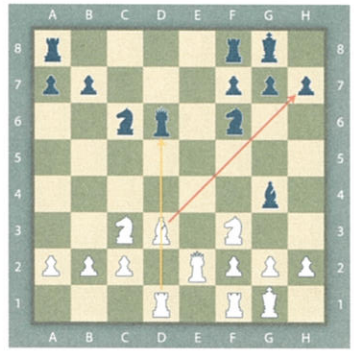


Figure 21. Discovered attack

A powerful kind of discovered attack is the ***double attack.*** When the king is attacked with double check (it is placed in check by two pieces at the same time), moving the king is the only way to respond to both attacks.



**Figure 22. Double attack**



**Figure 23. Interposing**

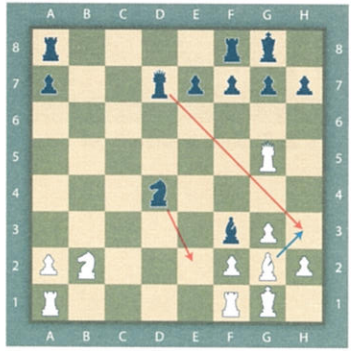


**Figure 24. Overloading**

In figure 22, the white bishop on *b2* is threatened by the black knight on *d3*, but the bishop protects the white rook on *g7*. White moves the rook to *g8 (Rg8+)*, which attacks the black king with a double check (from both the white rook and the white bishop). To respond to both threats, the black king must move out of square *h8*. The black king moves to *g8*, capturing the white rook *(Kxg8)*. Then White moves the remaining white rook from *a1* to *g1*, which checkmates the black king *(Rg1#)*.

Moving a piece in the way of a threat ***interposes*** that piece. An interposed piece that is protected and also gets in the way of an attack will slow or even stop that attack.

In figure 23, White interposing a knight by moving it to square *e3 (Ne3#)* does more than stop the black rook's attack on the white king. Interposing the knight also checkmates the black king with a double check. (If you set up a chessboard as shown in figure 23 and try all of the black king's possible moves, you will find that the king cannot escape.)

A piece that is defending against more than one threat is overloaded. When you play the first threat against that piece, your opponent must respond to that threat, which often leaves the other threat undefended.

In figure 24, the white bishop on *g2* is overloaded with duties. Black moves the black queen to *h3 (Qh3)*. If White responds by moving the bishop to capture the black queen *(Bxh3)*, then Black moves the black knight to *e2* for checkmate *(Ne2#)*. If, however, White responds by moving the white bishop to capture the black bishop *(Bxf3)*, then the black knight captures the white bishop *(Nxf3+)* and supports checkmate on the next move. Because the black knight has placed the white king in check, the king must move to square *h1 (Kh1)*. Then Black moves the black queen from *h3* to *h2*, taking the pawn for checkmate *(Qxh2#)*.





Using more pieces to protect an important square than the opponent has available to attack that square is called ***overprotecting.*** The benefit of overprotecting is that the pieces defending this square are free to leave as they respond to other attacks. The player who has overprotected an important square against threats can safely remove defenders in order to launch an attack.

To ***pin*** an opponent's piece means to force it to stay put because moving it would expose a more valuable piece behind it to capture. While the pin is in place, the pinned piece cannot move if moving it would place the king in check or would cause the loss of a more valuable piece.

Forcing an opponent's piece to leave an important square, rank, or file and move to a less important one is called ***deflection.*** Deflection—removing the defender—often exposes the king or a valuable piece to attack.

In figure 25, Black has the white king surrounded. But to checkmate the king, Black must first remove the defender. Black moves the queen to *c3 (Qxc3)*, capturing the white knight. White cannot capture the black queen with the white king because that would place the king in check from the black knight on *d1*. White's only play is to move the bishop to *c3 (Bxc3)*, capturing the black queen. Then Black moves the knight from *d1* to *e3 (Nxe3#)* for the checkmate.



**Figure 25. Remove the defender**

A ***skewer*** is a move that attacks two pieces in a line. It is similar to a pin, except that the enemy piece of greater value is in front of the piece of lesser value. After the more valuable piece moves away, the lesser piece can be captured. A skewer is always done with a bishop, rook, or queen.

In figure 26, White skewered Black's king and queen by moving the white bishop to *f4 (B-f4+)*, which puts the black king in check. Black blocks the check with a move of the knight *(N-e5+)* that also forks (simultaneously threatens) White's king and queen. The black knight at *e5* is pinned, and White's bishop can capture the knight *(Bxe5+)* to skewer the black king again and (on the next move, after the king moves away) capture the queen on *b8*.

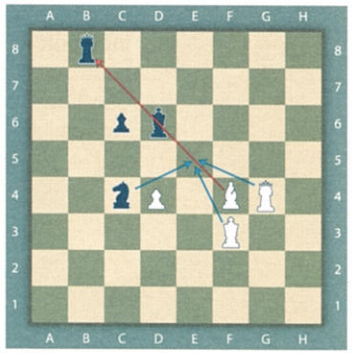


**Figure 26. Skewer**



**Figure 27. Zwischenzug**

A **zwischenzug** (the word is German for "in-between move") is a threat that can happen during a series of expected moves, like the exchange of multiple pieces. Rather than making the expected move to continue exchanging pieces, your opponent could put your king in check (or make a different threat) and force one of your defenders to move, leaving you with fewer defenders to continue the exchange. The player who makes the zwischenzug move often gets a big advantage after the exchange of pieces.

In figure 27, it is Black's move, and Black's pawn on square *d6* takes the white pawn on *e5* *(d6xe5)*. Black expects White's queen to race to *d8* to capture the black queen *(Qxd8)*. Then Black's king would capture the white queen *(Kxd8)*. Instead of exchanging queens, however, White uses the bishop to capture the pawn on *f7* *(Bxf7+)*, a zwischenzug that puts the black king in check. Black must respond by using the king to capture the bishop *(Kxf7)*. Then White's queen takes Black's queen *(Qxd8)*. White has lost only a bishop, while Black has lost the queen and a pawn.

"It's always better to sacrifice your opponent's men."
—Chess Grandmaster Savielly Tartakower

## Think Before Each Move

Analyzing chess positions accurately is a way to find threats and possibilities that others miss, even though those opportunities are there for everyone to see. Analyzing chess positions requires methodical thinking. As you analyze your opponent's move and your intended response, running through a mental checklist of questions can keep you from making a rookie mistake and guide you toward better moves for your situation.





## Things to Consider in the Middle Game

Before each of your moves, ask yourself:

- Does my opponent's last move pose a threat? (If it does, respond to it.)
- Did my opponent meet the threat posed by my last move?
- Is my king safe? Is my opponent's king open to attack?
- Have I adequately protected all of my pieces?
- Has my opponent left a piece undefended and easy to capture, risk-free?
- Do I still have pieces that I need to develop?
- Can I move a rook to an open file, especially a middle ("d" or "e") file?
- Does my opponent have a weakness that I can take advantage of? Can I make a plan to exploit that weakness? How could my opponent stop my plan?
- Does the move I intend to make overlook something basic—like the loss of a piece or the risk of checkmate?



## Transition to a Won Endgame

Having more pieces or more valuable pieces than your opponent gives you a material advantage. When you do not have enough of a material advantage in the middle game to force checkmate on your opponent, the general plan to win the game is by transitioning to a won endgame. To make this transition:

- Exchange pieces evenly (rook for rook, queen for queen, etc.) when you are ahead. This small difference in a material advantage will become more important. Position your pieces so that the player who has fewer pieces must either move them (to avoid an exchange) or must go along with your plan.
- Keep bishops (trade off knights) if the game can develop into an open game (few pawns on the board). Keep knights (trade off bishops) if the game is developing into a closed game (many pawns on the board).
- Use a tempo advantage to win a race to promote a pawn to a queen.



If you carefully consider strategy and tactics before each move, think methodically, and remember how to transition to a won endgame, you will have a strong middle game.





If you are doing everything discussed in this section, then you are fully concentrating on your chess game. Developing the skill of deep concentration will benefit you in many ways throughout your life.





NASA astronaut and Eagle Scout Greg Chamitoff was speeding along up in the air—5 miles per second, to be exact—pondering his next move. Chamitoff challenged the rest of the Expedition 17 crew members to a friendly game of chess in space.

# Endgames

In the final stage of a chess game—the endgame—usually only a few pieces are left on the board. Whether you have a material advantage at this stage or you have fewer pieces than your opponent, the ultimate outcome—win, lose, or *draw* (tie)—depends on how well you play the endgame.

## Tips for Endgame Success

Take your time and think about each move. In the endgame, the board looks simpler because there are fewer pieces on it. Even at this stage, however, it is easy to make a mistake that costs you the game. A game that should be a win can turn into a draw because you caused a *stalemate*. Before you play your move, think about what your opponent's move could be.

A stalemate happens when a player is not in checkmate but has no legal move to play. See "Draws and Stalemates" at the end of this section.

**Push your passed pawns.** One way to win games is to promote your pawns into queens. The most useful pawn to advance toward promotion is a *passed pawn*—one that has no pawn in front of it and cannot be stopped by a pawn on either side of it. Figure 28 shows a passed pawn on square *a3*. The white *a* pawn has a clear road to *a8*, where it can be promoted. The rook on *a1* is helping to protect the pawn. A passed pawn often needs support (like a friendly rook behind it or a friendly king alongside it) to reach promotion.




**Figure 28. Passed pawn**





Figure 29. The black king protects the black pawn.

**Use your king.** In the earlier stages of a game, it is often dangerous for the king to be out in the open—away from the first row and out from behind a wall of pawns. But in the endgame, the king can be a valuable piece that should see action. The king can attack and capture the opponent's pawns, protect your own pieces and pawns, and shepherd pawns through to become queens, by protecting them as they move forward. Figure 29 shows a black pawn that only needs to move two more squares to reach *d1*, where it can be promoted to a queen. The black king sitting on *e2* protects the pawn and also blocks the white king on *g2* from reaching the black pawn in time to stop its promotion.





**Use each piece well.** In the endgame, when you have only a few pieces on the board, it is important to make good use of all of them. In figure 30, the white rook and bishop are active and are working together to attack the queenside (*a–d* files). The black rook and bishop, however, are sitting in the corner—neither defending the queenside nor attacking. By the time the black pieces are active, the game may be lost.



Figure 30. Use each piece well.

**Control the queening square.** The queening square is where a pawn will promote to a queen (or to any other piece except a king or another pawn, but usually to a queen). You may need to control this square, often with your king, to protect and promote your pawn. Figure 31 shows a winning position for White when there are just the two kings and one pawn remaining. The pawn on *e7* is one move away from promoting to a queen. (The queening square, *e8*, is marked with a star.) Because the two kings cannot stand side-by-side, White will be able to promote the pawn to *e8*, no matter whose turn it is to move.

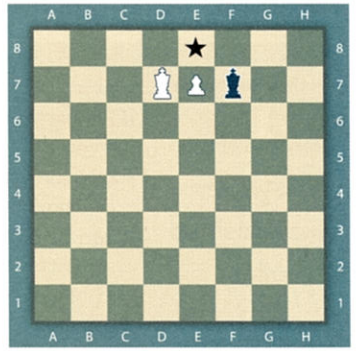


Figure 31. Pawn approaching queening square

Every pawn counts. Every pawn can become a queen, so don't be careless about losing your pawns. Just one extra pawn—like a free throw in basketball—can win you the game. If you are losing because your opponent has a passed pawn or an extra pawn, then you need to stop that pawn from becoming a queen. Try to block its advance, control the queening square, capture the pawn, or launch some threats of your own.



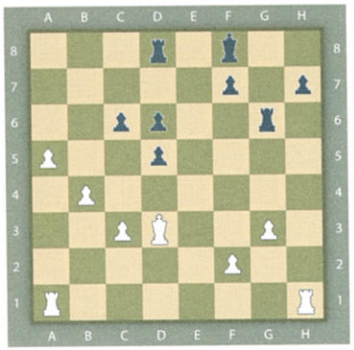


**Figure 32. Pawn islands and pawn chains**

**Protect your pawns.** Try to keep your pawns protected, passed, and in safe groups, not doubled, *isolated*, backward, or exposed. Figure 32 shows White's pawns in two groups or "islands." Both islands form pawn chains—that is, the pawns protect each other diagonally, except for the pawn at the base of the chain (the one farthest behind). The *a* pawn occupies the best position—it is a passed pawn, protected, and advanced. The weakest pawns are those at the base of the chain—the "backward" pawns. They should be guarded by a piece or the king.

Black's pawns are in three islands. The *f* and *h* pawns are isolated—by themselves with no pawns in the files next to them. These pawns are weak—they need a piece guarding them. The *d* pawns are doubled (sitting on the same file) and the pawn on *d6* is very weak. If attacked, it cannot move. (Black's *h* pawn is even weaker. Not only is it isolated, it is under attack by the white rook on *h1*.)

Backward pawns are the weakest pawns and should be guarded.

Think about what to swap off. As the game progresses, it can be difficult to decide whether to hold on to your pieces and pawns or to exchange them with your opponent. Some exchanges may be good for you, and some may be bad.

Here are rules to remember in the endgame.

- If you are ahead, swap pieces (knight, bishop, rook, queen) but not pawns.
- If you are behind, swap pawns, not pieces.
- If you are behind, try to swap off all the pawns on one side.





## Three Basic Checkmates

To win games, you must know how to checkmate your opponent's king. Illustrated here are three basic checkmates. Learn these well, through lots of practice, so you can perform them almost automatically (when you are nervous or under pressure) and without allowing stalemate. You should follow these moves on a chessboard to become familiar with each method.

### Checkmate With King and Queen Versus King

The most important checkmate to learn is "King and Queen versus King." This is the situation you get after you promote your pawn to queen. Figures 33–35 show the three checkmate patterns. Notice in each of these that the black king is on the edge or in the corner, and the white queen needs the white king to help. In this situation, your best plan is to drive the opponent's king to the edge with the queen and then use your king to support the checkmate.



**Figure 33. Checkmate with king and queen vs. king—pattern No. 1**

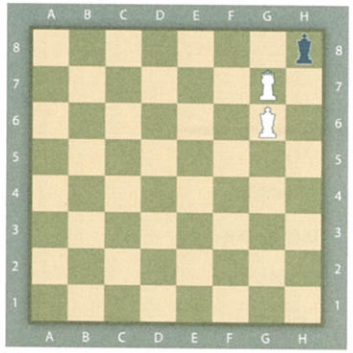


**Figure 34. Checkmate with king and queen vs. king—pattern No. 2**



**Figure 35. Checkmate with king and queen vs. king—pattern No. 3**

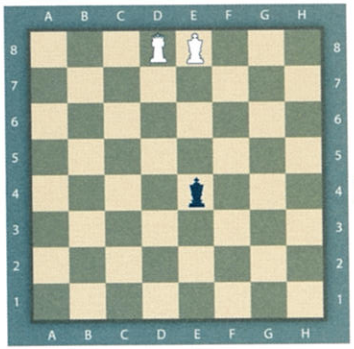


**Figure 36. "King and queen vs. king." In this example, the three pieces start from the positions shown.**

It's easier to picture these examples if you set up a chess board and try these moves yourself.

Study this example, in which White will win. Figure 36 shows the white king and queen on the eighth rank (pretend a pawn just promoted). The black king is in the center. Here are the moves, with White moving first in each pair of moves.

| | | |
|---|---|---|
| 1 | *Qd6* | *Kf3* |

The white queen moved a "knight's move" away from the black king. Remember: The knight moves in an L shape (two squares in one direction and one square at a right angle). As the black king moves, the white queen maintains the L shape. The black king must avoid the edge as long as possible.

| | | |
|---|---|---|
| 2 | *Qe5* | *Kg4* |

The black king had moved diagonally "southeast," so the white queen did the same with *Qe5*. Now the black king moved diagonally "northeast," so the white queen will do the same on the third move. This pattern will repeat until the black king is forced to the edge.

| | | |
|---|---|---|
| 3 | *Qf6* | *Kg3* |
| 4 | *Qf5* | *Kg2* |
| 5 | *Qf4* | *Kh3* |
| 6 | *Qg5* | *Kh2* |

Now freeze the queen on *g5*. The black king can move only between *h3* and *h2* to avoid the corner. Now it's the white king's turn to march. Its goal is to move two squares away from the black king. (If you did not freeze the queen on *g5* but simply continued mimicking the black king, at some point the black king would move to *h1*, the white queen would move to *g3*, and the game would end in stalemate.)

| | | |
|---|---|---|
| 7 | *Kf7* | *Kh3* |
| 8 | *Kf6* | *Kh2* |
| 9 | *Kf5* | *Kh3* |
| 10 | *Kf4* | *Kh2* |
| 11 | *Kf3* | *Kh3* |
| 12 | *Qg3#* | |

Checkmate





## Checkmate With King and Two Rooks Versus King

The "king and two rooks" method can also be used with two queens or a queen and a rook versus a king. Figure 37 shows a typical checkmate with this pattern (sometimes described as a ladder or staircase). Notice that the rooks are kept on adjacent rows, and the king is not involved in the checkmate.

This example (figure 38) starts with the white rooks in the corners, and the black king in the center. It does not matter where the white king is, so just leave it on the first rank. The goal is to drive the black king to the edge—in this case, to the eighth rank.



**Figure 37. Checkmate with king and two rooks**

| | | |
|---|---|---|
| 1 | *Ra4* | *Kf5* |

White's first move is designed to cut the black king off from the bottom half of the board, so the black king can only move sideways or up the board. Think of the rook on *a4* as forming a horizontal fence on the fourth rank. The black king moves sideways (in this example, toward the other white rook).

| | | |
|---|---|---|
| 2 | *Rh5+* | *Kg6* |

White's second move places the black king in check. Notice how the rook on *h5* acts as a second fence, forcing the black king to move up the board to the sixth rank. Notice also that the black king is closing in on the rook on *h5*. The *h5* rook is unprotected.

| | | |
|---|---|---|
| 3 | *Rb5* | *Kf6* |

White responds to the threat by moving the *h5* rook far away to *b5* (that's the advantage of the rook—it can move many squares while the king can move only one at a time). Notice also that the two rooks are not on the same file. For the "ladder" method to work, the two rooks must be on different ranks and different files. The black king stays on the sixth rank, but the end is near.

| | | |
|---|---|---|
| 4 | *Ra6+* | *Ke7* |

Again White places the black king in check, and drives the king to the seventh rank.

| | | |
|---|---|---|
| 5 | *Rb7+* | *Kd8* |

Another check, and the black king is driven to the edge.

| | | |
|---|---|---|
| 6 | *Ra8#* | |

Checkmate. Game over.



**Figure 38. King and two rooks versus king. In this example, the four pieces start from the positions shown.**



**Figure 39. Checkmate with king and rook versus king—pattern No. 1**

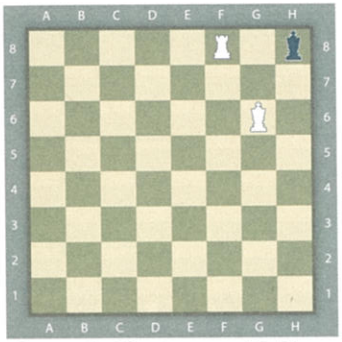


**Figure 40. Checkmate with king and rook vs. king—pattern No. 2**



**Figure 41. "King and rook vs. king." In this example of the "box" method, the three pieces start from the positions shown.**

## Checkmate With King and Rook Versus King

The "king and rook" method is a little trickier because the king and rook must work together all the time. Figures 39 and 40 show the two basic checkmate positions that you wish to achieve. The two basic methods to deliver checkmate are the "box" method and the "row-by-row" method. Only the box method is described here.

Figure 41 shows a sample position with the black king in the middle and the white rook and king on the edge, with White to move and win. The goal is to drive the black king to the *h* rank and eventually to the *h8* corner.

Remember to follow along with a real chessboard and pieces so you can understand the moves and picture the box that the pieces create.

| | | |
|---|---|---|
| 1 | *Rd3* | *Ke4* |

White's first move sets the rook in place like a corner post. The black king is boxed in—it cannot move past the *d* file or the third rank. White's goal is to move the rook farther up the board and toward the right to make the box smaller. Black's king will try to keep away from the edge and corner as long as possible. Black's move, *Ke4*, is an attack upon the white rook. (If White is not paying attention, Black could capture the rook, and the game would be a draw.)

| | | |
|---|---|---|
| 2 | *Ke2* | *Ke5* |

White's king moves to *e2* to protect the rook. Black's king must move away.

| | | |
|---|---|---|
| 3 | *Ke3* | *Kf5* |

White's king moves up, which forces Black's king to retreat.

| | | |
|---|---|---|
| 4 | *Rd4* | *Ke5* |

Now the rook can safely move up, protected by the white king. The rook's move makes the box smaller. Black's move, to *e5*, is meant to keep the black king as far from the edge as possible.





| | | |
|---|---|---|
| 5 | *Kd3* | *Ke6* |

White's king plays another waiting move and defends the rook. Black's king is not allowed to pass and must retreat.

| | | |
|---|---|---|
| 6 | *Ke4* | *Kf6* |

White's king moves up to *e4*—moving forward and defending the rook. Black's king can only hang around on the sixth rank.

| | | |
|---|---|---|
| 7 | *Rd5* | *Ke6* |

The rook can advance a square, shrinking the box again. The black king again attacks the rook.

| | | |
|---|---|---|
| 8 | *Kd4* | *Kf6* |

White's king plays another waiting move, protecting the rook. Black's king stays on the sixth rank.

| | | |
|---|---|---|
| 9 | *Re5* | *Kf7* |

The white rook grabs a chance to shrink the box by moving sideways. The black king must retreat to either the *g* file or the seventh rank (in this example, the seventh rank.)

| | | |
|---|---|---|
| 10 | *Ke4* | *Kf6* |
| 11 | *Kf4* | *Kf7* |

White plays a couple of waiting moves to bring the white king toward the *h* file (the ultimate goal is to force the black king to *h8*) while protecting the rook.

| | | |
|---|---|---|
| 12 | *Kf5* | *Kg7* |
| 13 | *Re6* | *Kf7* |

The white king's 12th move allows the rook to advance to *e6*, which shrinks the box again.

| | | |
|---|---|---|
| 14 | *Ke5* | *Kg7* |

White's king plays another waiting move, protecting the rook, while Black's king stays on the seventh rank.

| | | |
|---|---|---|
| 15 | *Rf6* | *Kg8* |

The white rook slides over to *f6* and shrinks the box again, and Black's king must retreat to the edge. The end is near.

| | | |
|---|---|---|
| 16 | *Kf5* | *Kg7* |

White's king moves closer to the *h8* corner while protecting the rook. Black's king escapes the edge (if only briefly).

| | | |
|---|---|---|
| 17 | *Kg5* | *Kg8* |

White's king slides over and protects the rook. Black's king must retreat to the edge again.

| | | |
|---|---|---|
| 18 | *Kg6* | *Kh8* |

White's king moves in closer. Now Black's king has only two squares in which to move—g8 and h8. Remember to give the black king two squares to move until the end, to avoid stalemate.

| | | |
|---|---|---|
| 19 | *Rf8#* | |

Checkmate. Game over.



If you are losing a game, don't give up hope. Your opponent may not know how to win, even with a large material advantage. If your opponent cannot win in 50 moves or stalemates you, then you have escaped with a draw. To accomplish this, try to avoid having your king trapped on the edge or in a corner.





## Draws and Stalemates

Here are the ways a game of chess can end in a draw (deadlocked or tied).

**Stalemate.** The game is automatically a draw if the player whose turn it is to move is not in check but has no legal move. This situation is called a stalemate. Figure 42 shows one example.

**Insufficient material.** The game is a draw if no possible sequence of legal moves can lead to checkmate. This usually happens because of insufficient material (too few pieces left). For example, one player may have a king and a bishop or knight and the other player has only a king.

**Mutual agreement.** A player may offer a draw to the opponent at any stage of a game. If the players agree to a draw, the game is a draw.

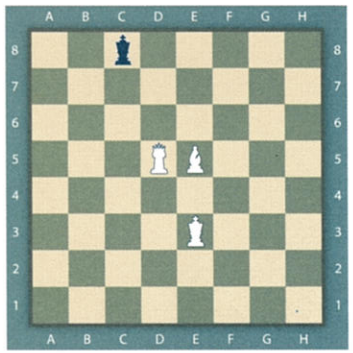



**Figure 42. Black to move is in stalemate, because the black king has no legal move. The game is a draw.**

The player whose turn it is to move may claim a draw by declaring that one of the following conditions exists, or by declaring his or her intention to make a move that will bring about one of these conditions. If the claim is proven true (by means of an accurate scoresheet), then the game is a draw.

- **The *50-move rule.*** Fifty moves have been played by each player without any capture or a pawn being moved.
- **Triple-occurrence rule.** The same board position has occurred three times. That is, all the pieces have been in 'the same identical position three times, with all pieces having the same rights to move, including the right to castle or capture en passant.



# Chess Problems

A chess problem is like a puzzle set up on a chessboard. The problem challenges the solver to achieve a particular task.

Many people would rather solve chess problems than play an actual game of chess.

## Direct Mate

In direct-mate problems, White or Black is to move and achieve checkmate in one or more moves. Direct-mate problems are the most common type of chess problems, and solving them can be helpful in honing your attacking skills.

Start with mate-in-one-move problems and work up to problems with more moves as you develop skill in finding checkmates. Mate-in-two-move problems can be solved by looking at all possible moves. For checkmate in three or more moves, however, you will need to know some shortcuts that you will learn with practice, solving simpler direct-mate problems.

In a competitive chess game, of course, no one is telling you that checkmate can occur in a given number of moves.

### Tips for Solving Direct-Mate Chess Problems

Analyze options in a methodical way so you do not miss the solution.

- Look at the "king's field," which includes the square the king occupies and the squares surrounding the king. There are usually squares the king cannot legally move to because his pieces occupy them, or there is a threat from the opposing pieces.
- Often, the set of squares to which the king can move indicates the kind of moves that will deliver checkmate. If these squares are all on a diagonal, a bishop, queen, or knight often moves to cover the diagonal squares. If these squares are all in a row

(rank) or column (file), a rook or queen often covers those squares. A discovered check can threaten all the squares in a triangle next to the king in a single move.

- Look for the flight squares to which the king can move. The king may be able to move away, or forcing the king to move to another square could create an opportunity to deliver checkmate.

When no other move seems to work, the composer of the chess problem may have implied a move, like castling or an en passant pawn capture. If the king and rook are on their original squares, assume they have not moved and castling is possible. If pawns are positioned on adjacent files in row four or five, assume the first move could be to capture a pawn en passant.

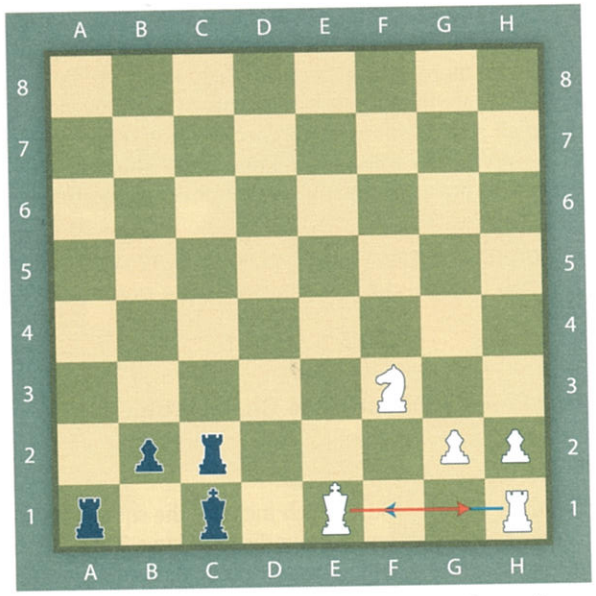


**Figure 43. In the situation shown, White is to checkmate in one move and all the squares that need to be attacked are on the first row. Also, the white king cannot move to the second row because of the black rook at *c2*. White castling kingside is the only possible solution to this problem.**





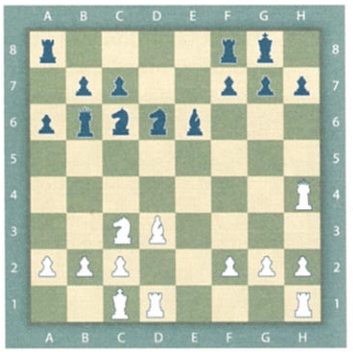
## Sample Direct-Mate Problems

Improve your ability to deliver checkmate by working the following direct-mate problems. Be sure to follow the "Tips for Solving Direct-Mate Problems." These examples are all checkmate-in-one-move.

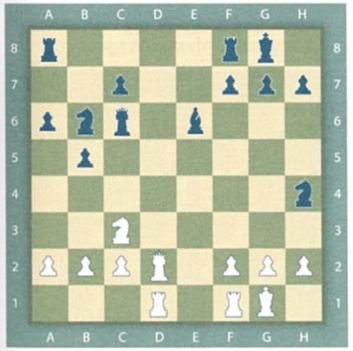
For the solutions, see the end of this pamphlet. Giving up and flipping to the back of the pamphlet for the answer can be tempting, but you will miss learning how to find the solution on your own.



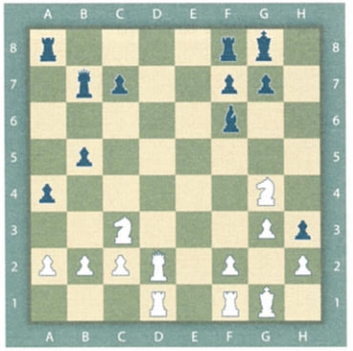
**DM1—White to move**



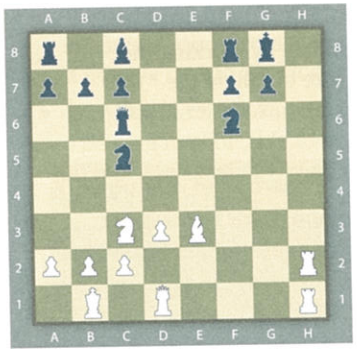
**DM2—White to move**



**DM3—Black to move**



**DM4—Black to move**



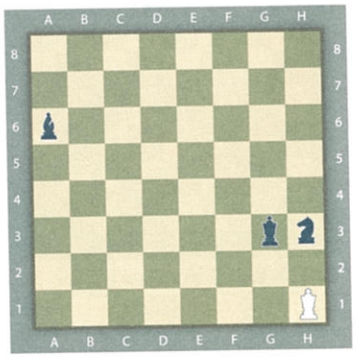
DM5—White to move



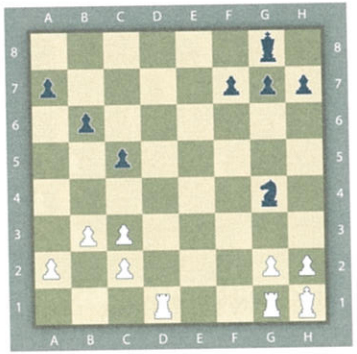
DM6—White to move



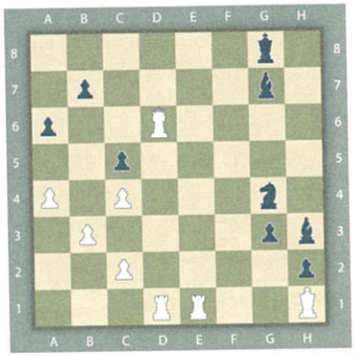
DM7—White to move



DM8—Black to move



DM9—Black to move



DM10—Black to move





## Other Kinds of Chess Problems

Here are brief descriptions of other types of chess problems. Your merit badge counselor can help provide you with these types of problems if you wish to work them.

If you have a losing position, looking for moves that will **force a draw or stalemate** is an important way to avoid losing the game. Stalemate and draw problems make you look for ways to either force a draw though a repetition of moves, or force a stalemate by eliminating all your legal moves.

In study problems, White is to move with the goal to win or draw. **Studies** call for the same kind of detailed analysis of the position that is done during tournament play.

In **helpmate problems,** Black moves first and "cooperates" with White to checkmate the black king. In **self-mate problems,** White moves first and forces Black to checkmate the white king. Solving helpmate and self-mate problems can help you see threats your opponent could use against you in a game, and help you avoid the beginner's mistake of making helpmate or self-mate moves in actual games.

In a **series-move problem,** one player visualizes a series of moves without the other player making a move. In a real chess game, it is simpler to develop plans by first visualizing a series of moves to reach a goal, without considering responses from your opponent. Solving series-move problems helps with visualizing plans before considering the possible responses. But before you commit to a plan, you will need to consider the moves your opponent can use to respond to the plan.

In a **retrograde analysis,** the problem-solver must find the moves that led to the problem position. The methods learned from solving this kind of problem can help you correct your chess scoresheet (which lists the moves in your game), if you made an error in recording moves during a tournament game.



# "The Immortal Game"

Adolf Anderssen vs. Lionel Kieseritsky, London, 1851

This game was reported in newspapers around the world. One chess journalist called it "The Immortal Game," believing it would always be among the greatest chess games ever played. (You can learn from it by playing the moves on a chessboard as they are listed and described. Remember that, in each pair of moves, White moves first.)

| | | |
|---|---|---|
| 1. | *e4* | *e5* |
| 2. | *f4* | White's second move leads up to a pawn sacrifice known as the King's Gambit. White's idea is to sacrifice a side pawn to gain a majority of center pawns, potential open files for his rooks, and a lead in developing his pieces. |
| 2. | ... | *exf4* |
| 3. | *B-c4* | *Q-h4+* |
| 4. | *K-f1* | *b5* |
| 5. | *Bxb5* | *N-f6* |
| 6. | *N-f3* | Both sides are hurrying to mobilize their pieces for the attack. Here, White develops his knight to attack the black queen. |
| 6. | ... | *Q-h6* |
| 7. | *d3* | White defends the e4 pawn and frees the bishop on c1. |
| 7. | ... | *N-h5* |
| 8. | *N-h4* | *Q-g5* |
| 9. | *N-f5* | *c6* |
| 10. | *g4* | *N-f6* |
| 11. | *R-g1* | *cxb5* |
| 12. | *h4* | *Q-g6* |
| 13. | *h5* | *Q-g5* |
| 14. | *Q-f3* | *N-g8* |
| 15. | *Bxf4* | *Q-f6* |
| 16. | *N-c3* | *B-c5* |
| 17. | *N-d5* | *Qxb2* |
| 18. | *B-d6* | *Qxa1+* White ignores all of Black's threats. As you can see in figure 44, White is starting to surround the black king. |

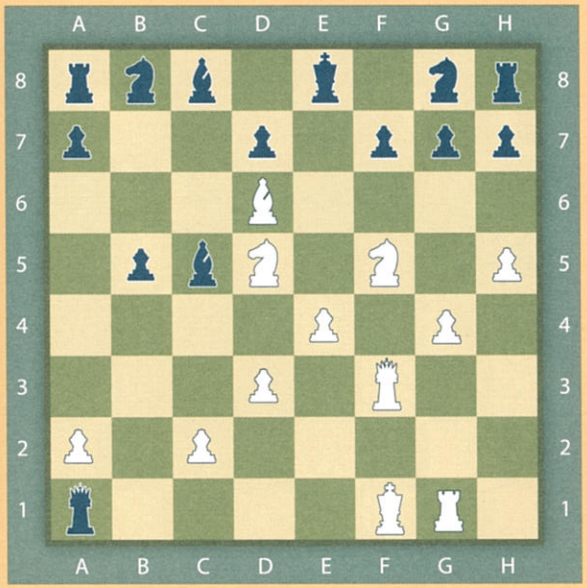



**Figure 44. "The Immortal Game" after 18 moves**

| | | |
|---|---|---|
| 19. | *K-e2* | *Bxg1* |
| 20. | *e5* | This is a crafty move. White has no intention of allowing the black queen to take part in the defense of Black's king. |
| 21. | ... | *N-a6* |
| 21. | *Nxg7+* | *K-d8* |
| 22. | *Q-f6+* | White draws the knight away from the defense of the *e7* square. |
| 22. | ... | *Nxf6* |
| 23. | *B-e7#* | White has sacrificed the queen, both rooks, and a bishop to obtain a checkmate with minor pieces. Figure 45 shows the final position of the game. |

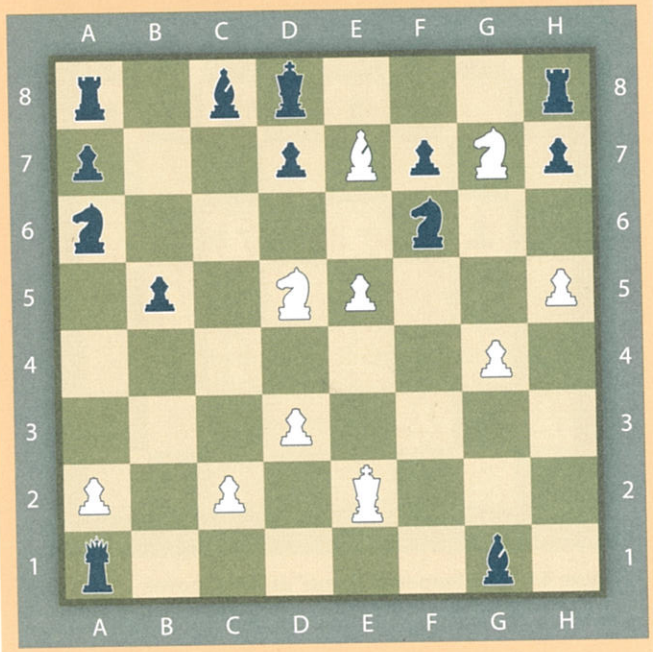
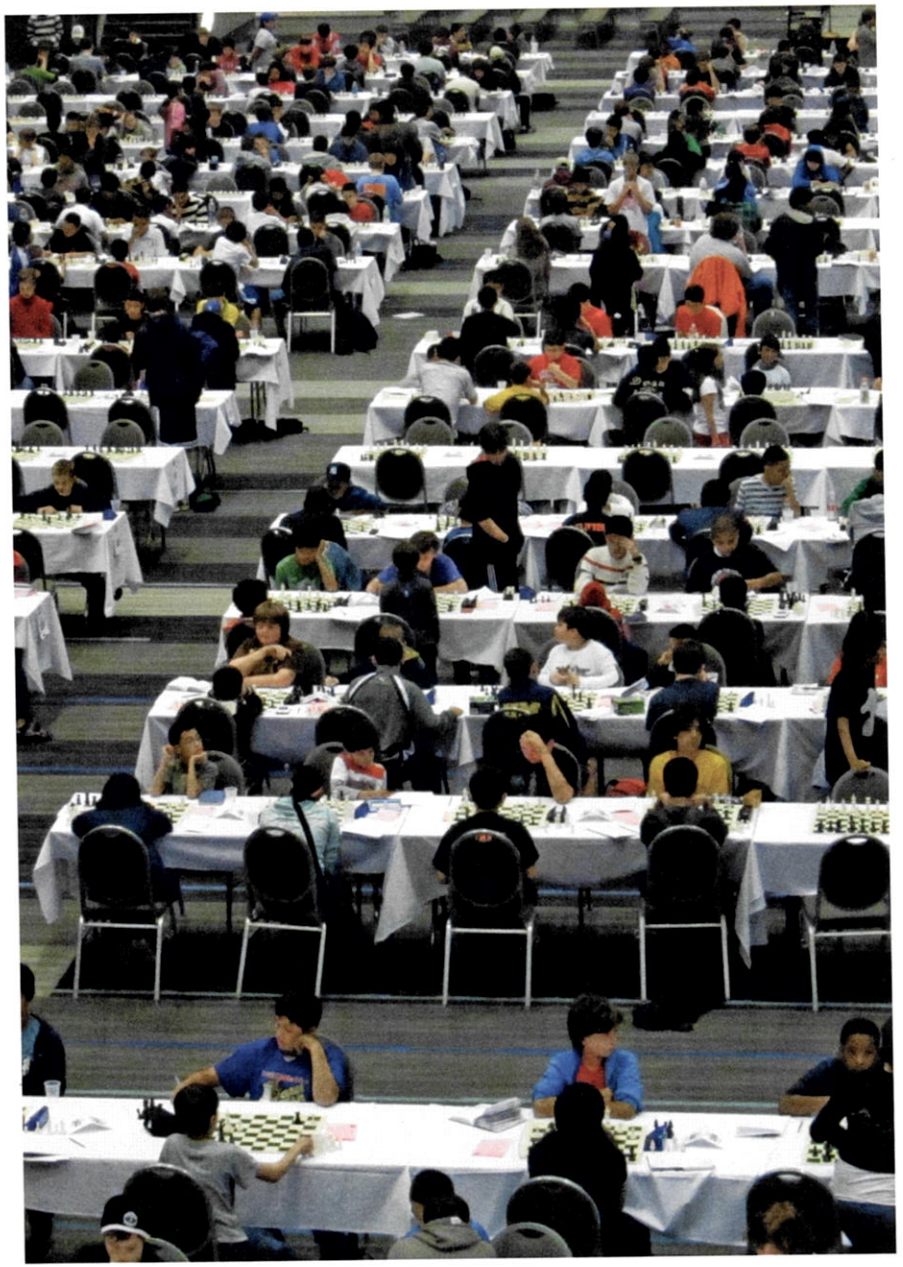



**Figure 45. "The Immortal Game," final position**











# Chess Tournaments

Chess competitions are held at the local, state, regional, and national levels. Tournaments may be held in person (typically called *over-the-board* or *OTB* tournaments), online, and by correspondence (mail and e-mail). Worldwide, millions of people compete in chess competitions every year, especially online.

Chess tournaments played over-the-board are like sports competitions where players win, lose, or draw, and the players are ranked by their score in the tournament games.

## Types of Tournaments

Chess tournaments can be informal—a contest held in your home, for example, with four or five players competing for a couple of hours. Tournaments can also be formal, with as few as 10 players or with many thousands of players at a large venue, playing over the course of several days.

Everyone can imagine sitting at the kitchen table playing a friendly game of chess with a friend or family member. But can you picture yourself in the ballroom of a large hotel or in a convention center playing at the same time as hundreds or thousands of others?

In competitive chess, the word "informal" is usually used for tournaments that are not sanctioned (approved) by a particular governing body. Informal tournaments may not use chess ratings in pairings.

An important part of formal types of tournaments is the use of official chess ratings. *Ratings* are numbers assigned to players based on their strength of play—the higher the number, the stronger the player. There are international (FIDE) ratings, and ratings assigned by the member federations in the countries that belong to FIDE. As you might expect, the rating of a beginner is much lower than the rating of a world champion.

A player with a USCF rating between 2000 and 2199 is an "expert"; between 2200 and 2399, a "master"; and 2400 or above, a "senior master."

Some formal tournaments use age to determine pairings, such as the USCF National Grade Tournament held each year between November 1 and December 15. In this tournament, players play only students in their grade. Age may be an important consideration in senior tournaments that are open only to people at or above a certain age, or junior tournaments that are open only to players under a certain age, such as the U.S. Junior Open.

## Pairings

Determining who plays whom in a chess tournament is called "pairing." The three methods of determining pairings are Swiss system, round-robin, and elimination.



### Swiss-System Tournaments

In Swiss-system tournaments—the most popular type—players are paired against others with similar scores. Relevant information about players (ratings, age, etc.) is entered into a computer program. The tournament director uses the computer to make pairings at the beginning of each *round* of play.

Swiss-system tournaments do not involve elimination—all players who enter the tournament play in every round. Here is how it works. Imagine each person who wins a match advances toward the top of a ladder, while those who lose their games move down to the bottom. The result is that players advance to their appropriate level of play.

As the tournament progresses, matches become more competitive as players with similar strengths end up on the same rungs of the ladder. Stronger players gather at the top, and weaker players gather at the bottom, with more competitive games for all.





### Round-Robin and Elimination Tournaments

Although less popular than Swiss-system tournaments, round-robin and elimination tournaments are also held. A round-robin tournament is a simple way to conduct a small tournament so that every player plays each opponent once. Or participants may play a set number of times (maybe once with the white pieces and once with the black pieces). The player with the highest score wins the tournament.

Elimination tournaments can be single or double elimination. Players may be assigned brackets or sections, or they may all be placed in one section. The last two players left in the tournament play for the championship.

## U.S. Chess Federation

The U.S. Chess Federation is the governing body for chess in this country. Scholastic (youth) and adult chess events are organized through the USCF.

The federation has individual members and affiliate (club) members. Individual members can play in tournaments and receive ratings (the numbers assigned to show how strong a player you are). The USCF publishes *Chess Life* and *Chess Life for Kids,* and has articles on its website (www.uschess.org) about players, tournaments, and upcoming events and programs.

The USCF provides opportunities for students from kindergarten through college and beyond. In the fall, national grade-level championships allow students to compete against others in their same grade. In the spring, three national scholastic tournaments—elementary, junior high/middle school, and high school—allow players and school teams to compete against the best in the country. Every four years, the three spring nationals are rolled into one "SuperNational." These events provide trophies and scholarships.

Your local chess club—if you have one—may be an affiliate member of the USCF. If so, in addition to casual play it can sponsor tournaments. The club may offer instruction in the game to help you improve.

Your club may be part of the state chess association, which also is an affiliate member of the USCF. State affiliates often sponsor large tournaments, including the state championship and the state scholastic championship, which may offer college scholarships as prizes.

With your parent's permission, search the USCF website (uschess.org) for a listing of state affiliates and local clubs by state.



**More than 4,300 chess players (ages 4 to 18) played in SuperNationals II in Kansas City in April 2001, making it the largest chess tournament ever held in one room.**

## Scoring

The method of scoring used in a chess tournament is one point for a win, a half point for a draw, and zero points for a loss. For example, if you play in a five-round Swiss-system tournament, and you checkmate three of your opponents, one of your games ends in a draw, and your opponent checkmates you in one game, your score for that tournament is 3.5 points out of a possible five.

In scored tournaments, tied scores are common. A system of tie-breaks may decide which player finishes ahead of another. In Swiss-system tournaments, tie-breaks are established by the U.S. Chess Federation's Official Rules of Chess.





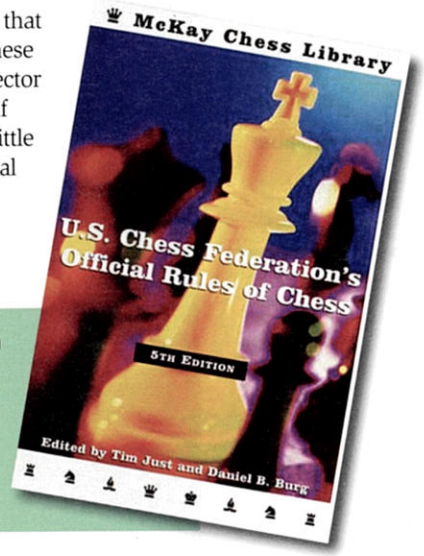
## Tournament Directors

A tournament director (TD) is responsible for running a chess tournament. TDs make the pairings for each round and settle any disputes that may arise during the tournament. Before a tournament begins, the TD records all the relevant information about the participants. During a tournament, the director enforces the rules of chess and keeps up with the results as matches are played. After a tournament, the TD determines the final standings and awards (if any). Tournament directors often have assistant TDs, or are assisted by other people who help in organizing and running a tournament.

The tournament director reports results of the tournament and ranking or points to the U.S. Chess Federation.

## Tournament Rules

Formal tournaments are subject to written rules that are established by the U.S. Chess Federation. These written rules are extensive. The tournament director must know all the rules and enforce them. But if you know just some basic rules, you will have little problem successfully participating. Even informal tournaments have rules, so it is important to know the basic rules and etiquette of playing in a chess tournament.




Once you join the U.S. Chess Federation and are rated, you will never lose your rating—even if you haven't participated in tournament play for a long time. You can pick up where you left off just by contacting the tournament director.

If you stay true to the Scout Law, you will find it hard to go wrong when it comes to the rules of playing chess. For instance, the first act in a chess match, before you begin moving pieces, is to shake your opponent's hand. That's friendly, courteous, kind, and cheerful right from the start! The more you play, the more you may notice how the rules, etiquette, and skills of chess tie in with the values of the Scout Oath and Scout Law.

Enjoy participating for the chance to compete, and for the fellowship of being with other chess players.

The first thing to remember in a chess tournament is to be respectful of the game and your opponent. If a dispute arises between you and your opponent or you have a question about the game you are playing, simply raise your hand and the tournament director will come over and settle the matter.



Secondly, have realistic expectations. No player wins every match. You are going to win and lose. Be humble and respectful of your opponent (don't get too happy when you win), and be a good sport (don't get too upset when you lose).





## The Touch-Move Rule

One rule that will be enforced, especially at formal tournaments, is the *touch-move rule*. If you touch one of your pieces on the chessboard, and you can make a legal move with that piece, then you must move that piece. Also, if you touch one of your opponent's pieces and the move is a legal one, then you must take/capture that piece. Finally, if you release your fingers from a piece after moving it, your move is over, if the move is a legal one.



The easiest way to avoid violating the touch-move rule is to "think with your brain, not with your hands." Do not touch any chess pieces until you are absolutely sure which piece you want to move, and to which square you want to move it.

If you must handle a piece because it accidentally got knocked over, or it is incorrectly positioned on the square it is sitting on, tell your opponent that you are *adjusting* your piece—before you touch it—by saying, "I adjust." Do not use this as a way to get around the touch-move rule. That would be poor sportsmanship.



## Etiquette

Chess players always behave like ladies and gentlemen. When a chess game begins and ends, the two players shake hands. During the game, there is little conversation between the players. Normally, the only conversation after a game begins is if one player offers the other a draw near the end of a game, or when the game is completed and both players say "Good game!"

In many tournaments, the boards and pieces are provided. When they are not, it is the responsibility of the player with the black pieces in that game to provide the equipment, if the player has equipment that is considered a normal chess set as described in the USCF's Official Rules of Chess.

**Distractions.** A player must do nothing that the opponent may find distracting. A player may not make any kind of noise, such as tapping a pencil on a table, humming, whistling, or talking to someone. The tournament director has the authority to forfeit a player (declare that the player has lost the game) for trying to distract the opponent.





**Music.** Chess players are allowed to listen to music through earphones while playing a tournament game. In fact, many players do so to keep background sounds from distracting them. However, if a player turns the volume up so loud that the opponent or the players seated next to them can hear, that is considered a distraction.



Chess coaches often warn their players against listening to music with a fast beat—it tends to make the player speed up and not take time to study the game. Many high-rated chess players listen to classical music.

## No Kibitzing Allowed

Kibitzing is talking to a player while that player is still playing the game, or talking about an in-progress game where the players can hear. A chess game is between the two players—no one else. In most cases, not even a tournament director may interrupt or make a comment about a game in progress.

All observers must remain absolutely quiet. No one may comment about an illegal move, a bad move, the amount of time remaining, or anything else in that game. If this happens, the tournament director may forfeit the player who benefited from the comment, and expel from the tournament the person who made the comment.



When you are not sure about a rule or procedure, ask the tournament director for guidance. Cheating, in any form, is not allowed in chess matches. In all cases, report cheating to the tournament director.

**Cell phones/pagers.** Players are never allowed to have cell phones or audible pagers at the board during a game. If a cell phone or pager goes off during a game, the player responsible may have the game forfeited and be expelled from the tournament. Many phones, even when set on vibrate, will make an audible noise. A claim can be made that the player with the cell phone/pager is distracting another player—the opponent or someone seated at the next board. Under no circumstances may players make phone calls from within a tournament room, even if their game is finished. Players who ignore this basic courtesy face expulsion from the tournament.

**Reporting the results.** At the completion of a chess match, both players must report their results to the tournament director. This ensures that the proper results are provided to the director. Tournament directors always make it known, before the first round, where and how results should be reported. Usually a table is set up for this purpose in the competition area.

## Chess Notation

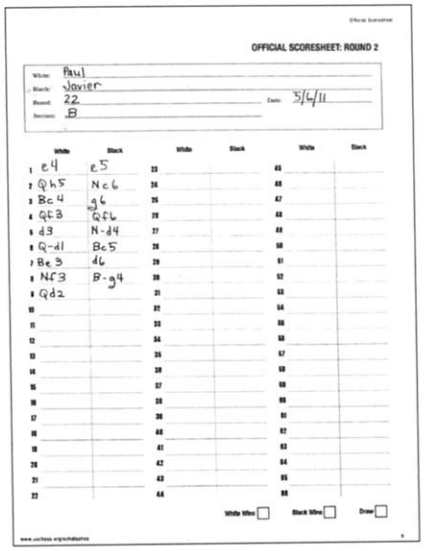
Chess *notation*—the process of recording your moves, and your opponent's moves, on a scoresheet—is often required in chess tournaments, especially formal tournaments. Chess notation has two purposes:

- It allows you to go over your game at a later time to learn and improve.
- It allows you to prove the triple-occurence rule and 50-move types of draws.

In algebraic notation—as in this pamphlet—letters are used to symbolize the pieces, and the individually identified squares on the chessboard are used to denote where pieces are moved from and to. In some cases, figurine notation may be substituted, especially in chess books, diagrams, and computer software, where a small figure or symbol replaces the letters that are used to describe the moves. Because some languages have different names for chess pieces, numeric notation may also be used, with a number designating each chess piece.






OFFICIAL SCORESHEET: ROUND 2

White: Paul
Black: Javier
Board: 22
Section: B
Date: 5/4/11

| | White | Black |
|---|---|---|
| 1 | e4 | e5 |
| 2 | Qh5 | Nc6 |
| 3 | Bc4 | g6 |
| 4 | Qf3 | Qf6 |
| 5 | d3 | N-d4 |
| 6 | Q-d1 | Bc5 |
| 7 | Be3 | d6 |
| 8 | Nf3 | B-g4 |
| 9 | Qd2 | |

White Wins ☐ Black Wins ☐ Draw ☐

The move by White is always listed first. When White and Black have each moved, this is considered to be one complete move in the game.

Algebraic notation is most common for scorekeeping. It is the notation you will need to know. As mentioned earlier, the chess pieces are abbreviated **K** (king), **Q** (queen), **R** (rook), **B** (bishop), and **N** (knight).

To record a move, you use the abbreviation for the piece, followed by the square it moves to. The pawn has no symbol or abbreviation. To record the move of a pawn, you write the square it moves to. Because every other piece has single letter designation, everyone will know you mean the pawn. For example, a popular first move (see figure 46) is recorded simply as *e4*.

Black's response is called the Alekhine Opening, named after a former world champion. "Knight to f6" is recorded as *Nf6*. The notation process continues as additional moves are made. As the moves are recorded, a scoresheet would look like this:

| | | |
|---|---|---|
| 1 | *e4* | *Nf6* |
| 2 | *Nc3* | *e5* |
| 3 | *d3* | *Bb4* |

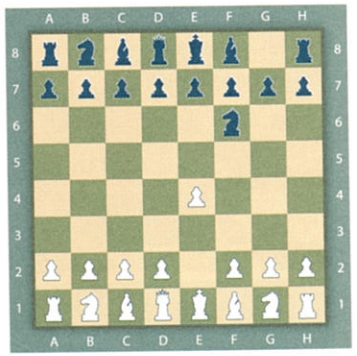



**Figure 46. "Pawn to e4" is recorded simply as *e4*. "Knight to f6" is recorded as *Nf6*.**

In tournament play, you are required to record your move before making the move.

Although official chess scoresheets used in tournaments are helpful in keeping notation, paper and pen work just as well in informal tournaments. Electronic scoring is another widely used method to keep notation, but not typically used in tournaments.

Here are some other symbols used in notation.

| | |
|---|---|
| Castling (on the king's side) | 0-0 |
| Queenside castling | 0-0-0 |
| Capture | x (for example, *BxNf6* means bishop captures knight on *f6*) |
| Check | + |
| Checkmate | # OR ++ |
| "d" pawn promotes to a queen | *d8=Q* |
| White wins | 1-0 |
| Black wins | 0-1 |
| Draw | ½-½ |
| Good move | ! |
| Bad move | ? |
| Brilliant move | !! |
| Blunder | ?? |
| Interesting move | !? |

If two identical pieces can move to the same square, the piece's abbreviation is followed by the file (or rank) that the piece leaves from. For example, if the knights are on *g1* and *d2*, either of them might move to *f3*. To make it clear which piece has moved, the move is recorded as *Ngf3* or *Ndf3*, as appropriate. With two knights on *g5* and *g1*, the move is recorded as *N5f3* or *N1f3*.

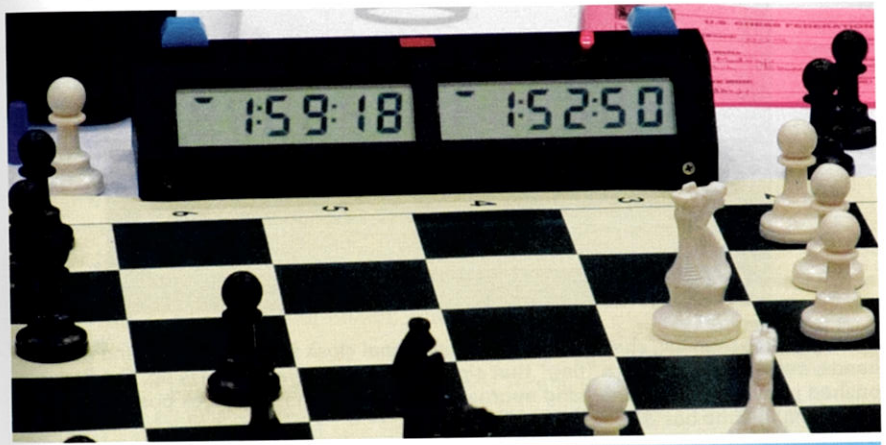




## Chess Clocks

Chess clocks are used to control the length of chess games, by limiting the time allowed for a given number of moves or the complete game. For instance, a Swiss-system tournament may have five rounds, and each round might have a time control of 45 minutes. The tournament announcement should list the time control, such as "game 45." This means a chess clock will be used to give each player 45 minutes to make their moves in the game, for a total possible match time of 90 minutes.

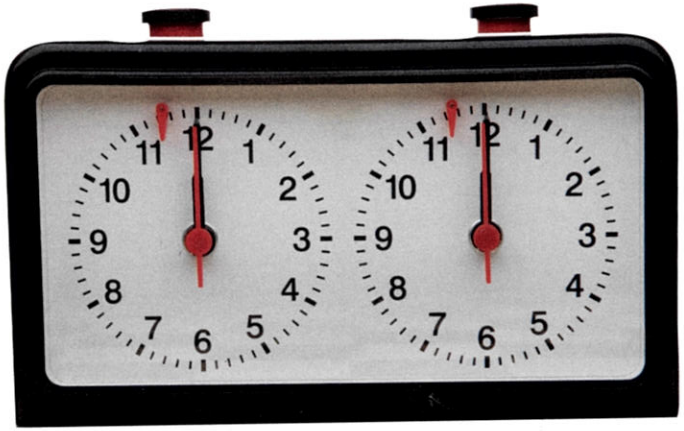
In formal tournaments, time controls are always used—this is a normal part of playing in chess tournaments. Therefore, managing time is a skill that the participants must develop. Besides winning or losing by checkmate, a player can win or lose due to time. In the case of a G/45 game, if you took 44 minutes to decide on your first move, you would likely lose on time. Your opponent would still have 45 minutes to make all of his or her moves, and you would be left with one minute to play the rest of your game.




In a chess tournament, the player with the black pieces gets the right to decide which side of the board the clock is on. Once the participants are ready to play, and have shaken hands, Black starts the chess clock so that White's time begins to run. Once White makes a move, White starts Black's clock with the same hand with which White moved a piece. The procedure continues, back and forth during the game, as the players make their moves.




**Digital chess clocks are the most common type of timer used in tournaments. This type of timer has two displays, each of which can be set to a specified time (such as 45:00 minutes), and each of which will count down to 00:00 when time has expired. Besides having two timers, all chess clocks have two buttons to start and stop time.**



**Analog, or mechanical, chess clocks have traditional clock faces with hour and minute hands, and a device called a "flag" that signals when a player's time is up. The flag is pushed up when the minute hand approaches the hour (the 12 o'clock position). When the flag falls, time has expired.**

Many rules apply to using timers in chess tournaments. Basically, the idea is that the players have a certain amount of time in which to make a certain number of moves, or they have a limited amount of time in which to make all of their moves. The tournament director will be available to help everyone understand the rules, and will be responsible for resolving any issues stemming from time controls.







## Organizing a Tournament

The Scout who chooses to organize a chess tournament will likely serve as the event coordinator and seek out an experienced chess player to serve as the tournament director (TD). Your tournament director might be your Chess merit badge counselor, or someone who already serves as an officially recognized TD.

Keep in mind that your tournament can be played on any scale that you determine is appropriate for the intended group of players. You might organize an over-the-board tournament for your fellow Scouts, family, and friends.

What does it take to organize and run your own chess tournament? As the event coordinator, you need to decide the following.

- What type of tournament do you want to have? Formal tournaments have established rules, but developing a list of basic rules would be appropriate for even the most informal tournament.
- Who will serve as the tournament director?
- Who are the likely participants?
- Where is an appropriate location to hold the tournament?
- What equipment and supplies are needed?
- When will the tournament be held (date and time)?
- How long will the tournament last?

If you choose to be an event coordinator, be sure to consult your Chess merit badge counselor before beginning the process of organizing and running a tournament.

Remember to send each person who helped with the tournament a thank-you note.

- Will there be awards?
- Will breaks be needed, and will breaks include refreshments?
- What will the costs be?
- Will there be a fee to participate?
- Will additional people be needed to help run the event?
- How will you promote and advertise your tournament?

Even if you never get to compete in a formal tournament, you can enjoy the game for its own benefits. You are part of the rich heritage of the "royal game," which is played on every continent. Like other players, you are developing your critical thinking skills and improving your ability to make choices. You are part of a world that enjoys the game simply because of the endless possibilities it offers.

You may discover that wherever you travel you are likely to find a new friend—someone who plays chess!







To have a successful event, the coordinator must ask these questions and use the answers as a guide to putting on the event. This sample checklist will help an event coordinator plan a tournament.

Tournament Checklist

1. Type of tournament: ❑ Formal (Official) ❑ Informal
2. Event name: _____
3. Event description: _____
4. Event coordinator: _____
5. Event assistants: _____
6. Tournament director: _____
7. Date and start time: _____
8. Location: _____
9. Permission to use location granted by: _____
10. Time controls: _____
11. Approximate end time of tournament: _____
12. Sections (if applicable): _____
    _____
13. Awards (if applicable): _____
14. Equipment and supplies needed: _____
    _____
15. Entry fee (if applicable): _____
16. Registration information: _____
    _____
17. Who will advertise the event? _____
18. Will food and drinks be provided? By whom? _____
19. List the participants (attach to this checklist).
20. Sketch the setup of the event, if applicable (attach drawing or diagram).
21. Provide directions (if needed) for getting to the tournament location.
22. Expenses: _____
    _____



# Glossary of Chess Terms

Some of these terms are not used in this pamphlet. As your skills improve, however, and you begin to play chess at more advanced levels, you will need to know many of these terms. Use this glossary for quick reference.

**adjust.** When a player does not intend to move a piece, but the player (when it is that player's move) wishes to slightly shift the piece to center it on a square, the player first says "I adjust" and then adjusts that piece.

**advantage.** A player leads his or her opponent in force (number of pieces), pawn structure, space, or time.

**backward pawn.** A pawn behind the pawns of the same color (on either side) that cannot support or be supported by other pawns.

**blockade.** Placing a piece in front of an opponent's passed pawn to stop the pawn's advance.

**capture.** Moving your piece onto the square on which your opponent's piece is sitting and then taking the opponent's piece off the board.

**castling.** Moving the king two squares toward a rook and moving the rook to the other side of the king. The king and rook cannot have been moved previously; the squares between the king and rook must be empty; the king may not pass through "check"; and the king may not castle out of "check."

**check.** A king is in check when an opponent's piece or pawn is attacking it and threatening to capture it.

**checkmate.** A king is checkmated (and the game ends) when the king is in check (threatened with capture) and the player is unable to move the king out of check, or to capture the piece that is placing the king in check, or to place a piece between the king and the opponent's piece that is creating the check.

**clearance sacrifice.** Sacrificing one of your pieces to clear the way for an attack by some of your other pieces.

**decoy.** A tactic that lures an opponent's piece to a square that is bad for the opponent.

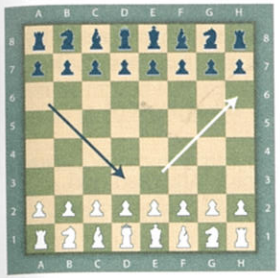
**defense.** Placing your pieces in positions on the board that will make it hard for your opponent to attack your king.

**deflection.** A tactic that lures the opponent's main defending piece away from what is being defended.

**development.** The process of moving pieces from their starting positions to positions of defense and to where they can begin an attack on the opponent.







Diagonals

**diagonal.** On a chessboard, connected squares that are neither vertical nor horizontal and are of the same color, such as *a1* to *h8*.

**discovered attack.** One piece is moved, revealing an attack on an opponent's piece by a piece behind the piece that was moved.

**double attack.** A single move that results in two pieces attacking one piece.

**doubled pawns.** Two pawns of the same color on the same file.

**draw.** A game in which neither player wins and both players receive a half point. Types of draws include (1) agreement between the two players, (2) stalemate, (3) impossibility of checkmate, (4) triple-occurrence, and (5) the 50-move rule. The last two must be proved with an accurate scoresheet.

**en passant.** A French term meaning "in passing." When a pawn advances two squares and ends up next to an enemy pawn, it can be captured as though the pawn had only moved one square.

**endgame.** The third and final phase of a chess game, when only a few pieces are left on the board.

**exchange.** The trading of pieces. Trading a piece or pawn for an opponent's piece of greater value is called "winning the exchange."

**50-move rule.** The game is a draw when the player whose move it is claims a draw and demonstrates with an accurate scoresheet that the last 50 moves have been made by each side with no capture or pawn move.

**file.** On a chessboard, a vertical column of eight squares, lettered "a" through "h."



Flanks

**flank.** The *a, b, c,* and *d* files on the queenside and the *e, f, g,* and *h* files on the kingside.

**force.** The player who has more material (pieces and pawns) has an advantage in force over his or her opponent.

**fork.** One piece attacks two enemy pieces at the same time.

**gambit.** The voluntary sacrifice of a pawn in the opening moves to gain an advantage in development.

**grandmaster.** The highest title awarded by FIDE to a chess player.

**half-open file.** A file that contains none of one player's pawns, but does contain one or more of the opponent's pawns.

**illegal move.** Moving a piece to a square or in a manner that the rules of chess do not allow.

**interpose.** To place a piece between an enemy's attacking piece and the attacked piece.

**isolated pawn.** A pawn that has no pawns of the same color on adjacent files.

**kingside.** The half of the chessboard made up by the *e*, *f*, *g*, and *h* files.

**major pieces.** Queens and rooks (also known as "heavy pieces").

**maneuver.** A series of *quiet moves* aimed at placing one or more pieces on better or stronger squares.

**middle game.** The phase of a chess game between the opening and the endgame.

**minor pieces.** Bishops and knights.

**notation.** The recording of each move by both players in a chess game.

**open file.** A vertical column of eight squares that is free of pawns.

**opening.** The beginning of a chess game, when the basic goals are to develop pieces quickly and to control as much of the center of a chessboard as possible.

**openings.** Established, well-known sequences of opening moves.

**overprotection.** Using too many pieces for the protection of one square.

**over-the-board (OTB) chess.** Chess played face-to-face.

**overworked piece.** A chess piece that is required to defend too many other pieces or squares.

**passed pawn.** A pawn that has no opponent's pawn in front of it or on an adjacent file.

**pawn chain.** Three or more pawns in a diagonal line with each protected by a pawn behind it on an adjacent file.

**pawn structure.** All aspects of pawn setup.

**pin.** When a piece is attacked and cannot move without losing a piece of greater value.

**point count.** A system that gives the pieces these values: queen = 9, rook = 5, bishop = 3, knight = 3, and pawn = 1. Some players believe that in the endgame, the bishop is worth 3 and the knight is worth 2. Counting points can help a beginner know whether a trade (an exchange of pieces) is a good one.

**poisoned pawn/piece.** A pawn or piece that, if captured, would lead to a serious disadvantage for the player who captured the pawn or piece.

**promotion.** A pawn reaching the eighth rank can be promoted to a knight, bishop, rook, or queen of the same color. The player must say out loud what the pawn is being promoted to, or exchange the pawn for a piece already captured.

**queenside.** The half of the chessboard that includes the *a*, *b*, *c*, and *d* files.

**quiet move.** Any move that is not the first move of a piece, a capture, a check, or a direct threat to the opponent.

**rank.** On a chessboard, a horizontal row of eight squares, numbered *1* through *8*.

**rating.** A number used in sanctioned tournaments representing a player's chess-playing ability. To be rated in the United States, you must be a member of the U.S. Chess Federation.





**rook lift.** Moving a rook from the home rank to a square in front of the line of pawns of the same color so the rook can then be moved left or right to any open square along that rank.

**round.** When one player plays another player in a tournament. A chess tournament has a series of rounds (four to seven, usually).

**sacrifice.** Giving up pieces for better space, pawn structure, or force.

**shouldering.** Using your king to keep the opponent's king out of the action.

**simplify.** Trading off pieces equally to get fewer pieces on the board. A player who has an advantage (more or stronger pieces on the board) will usually want to simplify.

**skewer.** A threat against two pieces in a line, which forces the valuable piece in front to move, allowing the capture of the piece behind it. A skewer is done with a bishop, rook, or queen.

**space.** The number of squares controlled by each player.

**stalemate.** When it is a player's move and he or she has no legal moves and is not in check.

**strategy.** The reasoning behind a move, plan, or idea.

**tactics.** One or two moves (including decoys, deflections, pins, sacrifices, and skewers) that give the player an advantage in pieces or position.

**tempo.** One move. If a piece can reach a useful square in one move, but takes two moves to get there, it has lost a tempo. If a piece moves to a square that forces the opponent to make a move he or she would not normally make, it has gained a tempo.

**time control.** The amount of time each player has to play the game or to make a specified number of moves.

**touch-move rule.** If a player touches a piece, that piece must be moved (if a legal move). If a player touches an opponent's piece, that piece must be captured (if a legal move). If a player places a piece on a square and removes his or her fingers, that piece must remain (if a legal move).

**trap.** Luring an opponent into making a poor move.

**triple-occurrence rule.** This type of draw occurs when all the pieces of both players have been in the same position at three times during the game.

**undermining.** Capturing or driving away a piece that is protecting another (also known as "removing the defender" and "removing the guard").

**unpin.** A counterattack that breaks a pin, gains time to break a pin, or ends a pin by capturing a pinning piece or forcing it to move.

**weakness.** A piece or square that is easily attacked and hard to defend.

**zugzwang.** A situation in which a player has no good moves, but is forced to make a move that results in a losing position for that player.

**zwischenzug.** A German term meaning "intermediate move" or "in-between move," this is usually a way to gain advantage by inserting a surprise move before following through on an obvious move.





# Chess Resources

Visit the Boy Scouts of America's official retail website (with your parent's permission) at http://www.scoutstuff.org for a complete listing of all merit badge pamphlets and other helpful Scouting materials and supplies.

## Books


Basman, Michael. *Chess for Kids*. DK Children, 2006.

Chandler, Murray. *Chess Tactics for Kids*. Gambit Publications, 2005.

Coakley, Jeff. *Winning Chess Exercises for Kids*. Chess 'n Math Association, 2004.

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Emms, John. *Concise Chess: The Compact Guide for Beginners*. Everyman Chess, 2003.

Horowitz, Al. *Chess for Beginners: A Picture Guide*. Harper Perennial, 1992.

Mednis, Edmar. *Practical Middlegame Tips*. Everyman Chess, 1998.

Nunn, John. *Understanding Chess Endgames*. Gambit Publications, 2009.

Pandolfini, Bruce. *Chess Openings: Traps and Zaps*. Fireside, 1989.

———. *Chess Thinking: The Visual Dictionary of Chess Moves, Rules, Strategies and Concepts*. Fireside, 1995.

———. *Pandolfini's Ultimate Guide to Chess*. Fireside, 2003.

Watson, John, and Graham Burgess. *Chess Openings for Kids*. Gambit Publications, 2011.

Wilson, Fred, and Bruce Alberston. *202 Checkmates for Children*. Cardoza, 2004.


## Organizations, Contacts, and Other Chess Resources

While you can type "chess" into your search engine and find many good chess sites and resources, here are a few sites you might explore.

### United States Chess Federation (USCF)

Telephone: 931-787-1234
Website: http://www.uschess.org/

### USCF Sales

Chess Equipment, Videos, and Books
Website: http://www.uscfsales.com/default.asp

# Solutions to Direct-Mate Problems

*DM1* Queen takes pawn on *h7* for checkmate *(Qxh7#).* The queen is guarded by the rook on *h1.*

*DM2* Queen takes pawn on *h7* for checkmate *(Qxh7#).* The queen is guarded by the bishop on *d3.*

*DM3* Queen takes pawn on *g2* for checkmate *(Qxg2#).* The queen is guarded by the knight on *h4.*

*DM4* Queen to *g2* for checkmate *(Q-g2#).* The queen is guarded by the pawn on *h3.*

*DM5* Rook to *h8* for checkmate *(R-h8#).* The rook on *h8* is guarded by the rook on *h1.*

*DM6* Rook to *h8* for checkmate *(R-h8#).* The rook is guarded by the bishop on *c3.*

*DM7* Rook takes pawn on *h7* for checkmate *(Rxh7#).* The knight stops the black king from escaping to *g8.*

*DM8* Bishop to *b7* for checkmate *(B-b7#).* The knight eliminates the white king's only escape square *(g1).*

*DM9* Knight to *f2* for checkmate *(N-f2#).* This is known as a "smothered mate" because White has taken away all of the white king's escape squares. Note that if it were White's move, rook to *d8* would be checkmate.

*DM10* Pawn to *g2* for checkmate *(g2#).* The white king cannot capture the *g2* pawn because it is guarded by the bishop on *h3.* The white king cannot capture the pawn on *h2* because it is guarded by the knight on *g4.* The white king cannot move to *g1* because then it would be in check by the pawn on *h2.*



## MERIT BADGE LIBRARY

Though intended as an aid to Boy Scouts, Varsity Scouts, and qualified Venturers and Sea Scouts in meeting merit badge requirements, these pamphlets are of general interest and are made available by many schools and public libraries. The latest revision date of each pamphlet might not correspond with the copyright date shown below, because this list is corrected only once a year, in January. Any number of merit badge pamphlets may be revised throughout the year; others are simply reprinted until a revision becomes necessary.

If a Scout has already started working on a merit badge when a new edition for that pamphlet is introduced, *he may continue to use the same merit badge pamphlet to earn the badge and fulfill the requirements therein.* In other words, the Scout need not start over again with the new pamphlet and possibly revised requirements.

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|---|---|
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| American Cultures | 2005 |
| American Heritage | 2005 |
| American Labor | 2006 |
| Animal Science | 2006 |
| Archaeology | 2006 |
| Archery | 2004 |
| Architecture and Landscape Architecture | 2010 |
| Art | 2006 |
| Astronomy | 2010 |
| Athletics | 2006 |
| Automotive Maintenance | 2008 |
| Aviation | 2006 |
| Backpacking | 2007 |
| Basketry | 2003 |
| Bird Study | 2005 |
| Bugling (*see* Music) | |
| Camping | 2005 |
| Canoeing | 2004 |
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| Citizenship in the Nation | 2005 |
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